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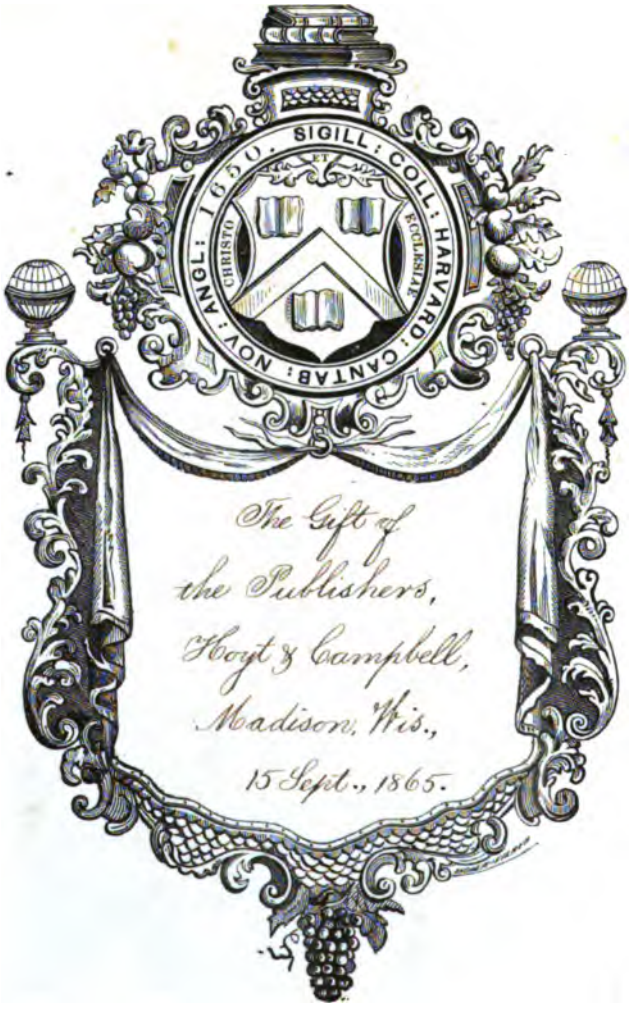

THE

WISCONSIN FARMER,

AND

NORTH-WESTERN CULTIVATOR;

DEVOTED TO

AGRICULTURE, HORTICULTURE, THE MECHANIC ARTS, AND RURAL ECONOMY.

Embellished and Illustrated with Numerous Engravings.

VOLUME XIV.

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"We are proud to say, it is the best looking as it is one of the most valuable agricultural journals in this western country."—*Milwaukee Sentinel.*

"In our opinion the *Wisconsin Farmer* is superior in several respects to Eastern periodicals of the same class."—*Green Lake Spctator.*

"A very interesting Agricultural periodical; is edited with ability * * * and ranks among the best industrial journals published."—*Toledo* (Ohio) *Blade.*

"If it is not worth one dollar a year we never seen a publication that was. Try it."—*Manitowoc Tribune.*

"The *Wisconsin Farmer* is better adapted to their wants and is, in all respects better suited to the farmers of this State than any eastern paper can be."—*Kewaunee Enterprize.*

"In the 14th year of its existence; having stood through the times—good and bad—the faithful advocate of the true interests of Agriculture in Wisconsin.—*Wisconsin Pinery.*

"Greatly improved of late and may now be ranked among the leading agricultural periodicals. * * * Should be liberally supported."—*North Star*, (Hudson.)

"Every farmer should pride himself in sustaining it."—*Juneau Co. Argus.*

"Now gotten up in the best of style, and deserves the support of every Wisconsin farmer."—*Grant Co. Witness.*

"One of the papers that every intelligent farmer considers indispensable.—*Racine Journal.*

"The Editor, Prof. HOYT, is untiring in his efforts to furnish valuable agricultural information, specially adapted to this section of the Union."—*Kenosha Tribune.*

"It meets the wants of our farmers exactly, and this number alone is worth the price for a year."—*Northern* (Minn.) *Statesman.*

"The *Farmer* is now acknowledged to be the best periodical of the kind in the country, and it is certainly progressing."—*Chilton Times.*

"Much careful attention and ability mark the editorial department.—*P. du C. Courier.*

"The best monthly ever issued in Wisconsin. Every family on a farm, or even with a garden, ought to have it."—*Baraboo Republic.*

"A sound practical and attractive home journal, and especially adapted to the wants of the industrial class in the Northwest.—*Waushara Argus.*

"Replete with interesting matter pertaining to Agriculture, Horticulture, Rural Economy, Mechanics, Educational Interest, the development of the resources of the State and Union, and other matter of general and special interest."—*Sparta Eagle.*

"It would be a valuable acquisition to every household. Exceedingly cheap at one dollar a year."—*Beloit Journal & Courier.*

"One of the most interesting and attractive periodicals in the country."—*Monroe Sentinel*

"Prof. HOYT has returned from the London Exhibition, and now makes the *Farmer* even more than usually entertaining."—*Jackson Co. Banner.*

"The *Farmer* is one of the handsomest agricultural papers published. The Editor having returned from his tour through Europe, in future numbers of the work will give us the fruits of his labors and observations."—*Kenosha Times.*

THE WISCONSIN FARMER.

J. W. HOYT, : : : : : : : : : : EDITOR.

VOL. XIV. MADISON, JANUARY 1, 1862. No. 1.

Statistics of the Great Grain Crops of 1860.

Great anxiety has been felt by all who feel an interest in the character and progress of the Agriculture of our young State, in the statistical results of the great grain crops of 1860. Individuals accustomed to making such calculations, had made what were regarded, out of the State, as wild estimates, and the Farm Committee of the Wisconsin State Agricultural Society, after careful observation in the grain-growing districts published an estimate which was received by the Eastern press with incredulity and declared extravagantly absurd.

We believe that none of those estimates claimed more than twenty-five millions of bushels of wheat; that of the Farm Committee claimed twenty-two millions of bushels. This last was likewise our own published estimate, after pretty extensive travel over the State, though we dared to believe that the figures furnished by the statistics would prove the calculation to have been quite moderate.

But to settle the matter and to make the Statistical Tables as complete, accurate and incontrovertible as possible, we asked of the Legislature of last winter certain amendments to the law for the collection of statistics, which should have the effect to compel a full and faithful performance of duty on the part of collectors. The amendments were made, and the returns furnish the most gratifying evidence of the improved efficiency of the law, as well as of the moderation of the crop referred to above.

Now what does really appear from those returns as tabulated and published by the Secretary of State? Why, the wheat crop of 1860 was, not 15,000,000 bushels, as the *Michigan Farmer* admitted, nor 16,000,000 as was generously allowed by sundry papers further East, nor 22,000,000 as was "extravagantly" claimed by the Farm Committee, nor 25,000,000 as had been "wildly" estimated by various individuals resident in the State, but TWENTY-SEVEN MILLIONS, THREE HUNDRED AND SIXTEEN THOUSAND, THREE HUNDRED AND SIX, AND ONE-HALF BUSHELS!

The number of acres sown was 1,112,630,-.62; from which we determine the average per acre to have been twenty-four and fifty-five hundredths bushels! An aggregate and an acreage not equalled, we will venture to say by any other State in the Union.

Wisconsin, as a State, has numbered but twelve years, and yet for the production of this greatest Northern staple, wheat, leads the van of the States! Verily, the Badger farmers have a right to hold up their heads, and every citizen may be proud of our noble Wisconsin.

Details of these statistics will be published in the Report of the Secretary of State and in the 6th Vol. of Transactions of the Wisconsin State Agricultural Society, both now in press. But meantime it will be of interest to our readers to know what counties took the lead in this immense production of wheat:

Dane ranks first, sowing 130,145 acres, and gathering	3,005,885	bush.
Dodge county second, gathering	2,295,357	"
Rock.....third,.....do	2,180,584	"
Fond du Lac fourth,.....do	1,775,365	"
Walworth.....fifth,.....do	1,675,449	"
Columbia.....sixth,.....do	1,396,647	"
Waukesha.....seventh,.....do	1,246,676	"

The corn crop was likewise large, exceeding our expectations by one or two millions, as Wisconsin has never taken rank among the great corn-growing States. Number of acres

planted, 373,418.48; number of bushels, 12,-045,178.

Of oats there were 336,394 .87 acres sown; number of bushels harvested, 18,884,987½.

These are, of course, the heaviest of our grain crops, and they are certainly worthy of our fertile soil and of the unsurpassed energy and enterprise of our people.

Comparative Values of Fuel.

When the cold season is upon us we are compelled to turn our attention to the supply of fuel as one source of warmth. In this country, three articles are used for this purpose, viz.: Wood, coal and peat. Of these, wood is mostly in use. It is evident to the most superficial observer, that there is a great difference in the different kinds of wood brought into our markets in regard to the amount of heat thrown out by them while undergoing combustion.—Experiments have been instituted several times, to ascertain as near as might be the actual difference in their amount. Among these experiments, those of Mr. Bull of Connecticut, several years ago were very satisfactory.

The most recent statements that we have seen, are the following, which may be interesting to many of our readers.

Taking good shell bark hickory for the standard, and calling that 100, and supposing all the different kinds of woods to be sound, and reckoning by the pound, the table will read thus:

Shell bark hickory,	100	Hard maple,	59
Pignut,	95	White elm,	58
White oak,	85	Red cedar,	50
White ash,	77	Wild cherry,	44
Dogwood, (cormus,)	75	Yellow pine,	74
Scrub oak,	73	Chestnut,	52
White hazel,	72	Yellow poplar,	51
Apple tree,	70	Butternut,	52
Red oak,	69	White birch,	49
White beech,	65	White pine,	52
Yellow oak,	60		

These several results must be only approximations to the truth. It is very evident that the soil and latitude in which these woods grow must have some effect on their value as fuel. We know that they do in regard to their properties for timber.

FLAX COTTON.—The New York Evening *Post* of the 16th says:

If King Cotton is not likely to be dethroned by his uncrowned rival, Flax, he is destined to get a severe poke in the ribs, which will make his seat uneasy. We have seen several specimens of the new commodity to-day, which come nearer to the genuine article than any that have yet fallen under our notice. They are to be seen at the office of Latson & Abbott, No. 159 Water Street, where fabrics of the same material are also to be inspected. Flannel, calico, drilling, and thread have all been made of the new flax fibre, and with a remarkable degree of perfection. New processes for preparing the fibre give great encouragement to those who are embarked in the business. Mills for the manufacture have already been erected in New York and in New England, and will soon be in operation, not only working the flax, by itself into fabrics, but working it in connection with wool and cotton. American ingenuity is about to succeed in a line in which the English and French have hitherto failed.

Agriculture in Nicaragua.

Hon. A. B. Dickinson, writes to the Country Gentleman, from Nicaragua, as follows:

DIMINUTIVE SIZE OF THE CATTLE OF NICARAGUA.

The cattle in these localities are about one-half the size of those of the Eastern, Middle and Western States of North America. I have never seen a bullock slaughtered here, that would weigh 500 pounds in the beef, nor have I ever heard of one that weighed 800 pounds. The average net weight of cattle here does not exceed 300 pounds, while in the Northern States it is as high as 600, and I have seen whole droves of cattle in the New York market, that would average 800 pounds each in beef. Indeed, it is no uncommon thing for several to be slaughtered during the holidays weighing in the neighborhood of 1,500 pounds each. The net weight of "Washington," the heaviest bullock which I recollect of seeing killed for beef in the States, was, if I remember rightly, over 2,100 pounds.

HOW THE COWS ARE MILKED.

The cows of this country generally give about as much milk as a goat, say from two to three quarts per day. Before they milk the cow, they always tie the calf to her fore leg. Then they carefully crawl up behind the calf, and the cow is cheated out of what little milk she has, under the supposition that she is giving it to her calf. To attempt to milk the cow without having the calf tied to her fore leg, would be considered by the natives as simply preposterous. Besides being "kicked into the middle of next week," they would fail to get a single drop of her milk, which she wouldn't think of giving down to anybody but her calf.

BUTTER AND CHEESE.

On the cattle estates the milk is manufactured into cheese, resembling what is known in the United States as pot-cheese, with the exception that this is pressed. It is largely used by the inhabitants, and brings from 10 to 12 cents per pound in the market. One hundred cows in this country will make no more, however, than twenty-five in the Northern States, as the former do not give more than one-fourth the quantity of milk which the latter do, and even that not half so rich. Butter is, as it

were, unknown here, though it can be made of an inferior quality, with great pains. Good butter can be brought here, however, from the Northern States, if well made and properly packed for a hot climate, which in time will be done to a great extent, to the mutual advantage of both countries.

SIZE OF THE MEN.

The size of man is also less here than in temperate climates. His average weight in this country would fall below 130 pounds, whereas in Maine, New Hampshire and Vermont it would be 160. pounds, and in New York and the Western States, 150 pounds.

NO MANURE SAVED.

The soil is made from the out-pourings of volcanoes, and has for ages been enriched with the ashes of burning mountains, which has made this country so unlike all others, that it has withstood the worst cultivation ever devised by man to exhaust a soil. The inhabitants all live in cities or villages, and bring everything from the farm to the place of residence to be consumed without the least particle ever being returned to renovate the soil; and not satisfied with this system, that would in time exhaust any other soil, they sow their corn for fodder, and pull that and the grass up by the roots, with much of the light soil sticking to them, so that when brought in the rain for the animals, which are kept in the towns, the water that runs from the cart loads looks as black as tar water. And this course has been pursued for the last 300 years, with two and sometimes three crops of corn per year or an alternate crop of corn and tobacco. They are now *nozzling* up their corn-fields with crooked sticks drawn by oxen, to plant tobacco; and that which has been set 15 or 20 days looks better, darker colored, and more thrifty than any other I ever saw in my life, not excepting that which I have seen grown on the bed of a coal pit. All the manure that accumulates here is hauled off and thrown into the river, holes or ravines. They never think of spreading it on their farms or gardens. No one seems to know whether it would do good or harm, as I have never seen the first man that has tried it on either farm or garden.

AN EASY WAY TO DISSOLVE BONES.—James S. Grennell, Esq., of Greenfield, practices dissolving bones by a method which seems worthy of notice from its simplicity and convenience. Casks having each but one head are provided; a layer of bones six or seven inches thick placed on the bottom; then strong, unleached wood ashes are spread over the bones to the thickness of two inches or more. The casks are filled in this way, taking care to have a pretty good thickness of ashes at the top to prevent the exhalation of ammonia. The process of thus packing the bones goes on through the season, or as ashes accumulate in the house, and they remain in the casks till spring, when the casks are emptied, and the bones are found to be generally well pulverized, or so soft that they can easily be broken as fine as desired. The mixed bones and ashes are excellent manure for most crops, and especially for fruit crops.—*Boston Cultivator.*

Take Care of Your Harness.

More damage is done to harness during the rainy weather of early and late winter than during all the rest of the year. Saturated with water, covered with mud, and often frozen stiff, so as to almost break when bent, in necessary handling, unusual care should be taken to keep it well oiled and hung up in proper shape when not in use. Thus treated, it will not only last many times longer, but look infinitely better than when neglected in the usual manner.

As to the kind of oil, we know of nothing better than neat's-foot or the *daubing* used by tanners. To give the black color characteristic of new leather, a little lampblack may be added, without detriment, though it is better not to use this until the second going over.

Before putting on the oil, however, there are two important conditions which must be observed—cleanness and dampness. The necessity of the first is obvious, and the last is not less important, since the oil cannot penetrate the leather and make it soft and pliable if put on when it is dry and hard.

One of the best ways to give to the leather the requisite degree of moisture is to wrap up the several parts of the harness in wet cloth a few hours previous to oiling. But this trouble is unnecessary where washing has been resorted to for cleaning, as the oil may then be applied before the leather is entirely dry. The oil should be rubbed in briskly with a brush or cloth, so as to insure its absorption.

Varnish should never be used as it closes the pores and renders the penetration of oil more difficult. Vegetable oils are hardening in their effects and should never be used for that reason.

Finally, let the application of oil be as frequent as needed, not once a year, as is the rule with some, or almost *never* as is the practice of many.

Valuable Thoughts for the Farmer.

[From an Agricultural Address, by LUTHER H. TUCKER, Esq., Editor *Country Gentleman*.]

THE PROBLEM OF MAINTAINING THE FERTILITY OF THE SOIL.

It is the great problem which has puzzled the farmers of every age—how best to maintain the fertility of the soil under the constant drafts it is obliged to sustain to meet the daily wants of man and beast. In a new land the virgin luxuriance which at first requires no artificial aid from the manure heap, and perhaps seems almost inexhaustible, after a crop or two,—or it may be, not until after a considerable series of years—shows signs of diminished productiveness;—and then it is soon discovered that Art must come to the assistance of Nature—that the soil must be *fed* as well as *bled*—that the old, old study which dates back some thousands of years before the parable was narrated of the barren tree that required to be "digged about and *dunged*," must be renewed and again investigated, under changing conditions, but in accordance with unchanging principles. As the Agriculture of a country grows still older, this question of manures and manuring, becomes more and still more the subject of discussion among its Farmers. We, in New York, are as yet but just upon the threshold of the question. We look around us upon here and there a locality, or perhaps a single farm, which has been "run down" by over-cropping,—where the farmers, like their land, are now poor—and, again, upon occasional instances of well sustained production and prosperous farmers,—and we are beginning to learn that in the one case proper attention to manuring has been invariably neglected—in the other, that it has been, just as invariably, the object of unceasing care and judicious expenditure. The logical connection between abundant compost-piles in well-managed barn-yards, and heavy granaries or well filled hay-mows, it seems almost uniformly to require a generation or two, thoroughly to establish; and even now, as much as we hear it discussed on such occasions as this—as much as we read about it in our agricultural papers—one would certainly think, to judge from far too many farmsteads we pass by on every public road I have ever travelled, that the agricultural mind was not yet quite clear as to the cardinal necessity of economizing and liberally applying manurial substances.

* * * * * * *

THE RESOURCES OF ANY SOIL MAY BE EXHAUSTED, OR, BY GOOD MANAGEMENT, RENDERED PRACTICALLY ILLIMITABLE.

In this question of the permanently productive power of the soil, there are, as in most others, two extreme positions—one, which is in disregard both of reason and experience, and the other, which is perhaps only an exaggerated form of presenting the truth. One of our old-fashioned farmers here, or a farmer of the present day on the prairies of the West, may tell me that the nature of his soil is such that it requires no nursing—no manuring—that its fertility will never fail. Him I do not believe; eventually,—under his way of farming—his soil must, practically speaking, become "exhausted;" instead of that kind of management which shall only draw the interest, so to speak, upon the wealth that has been accumulating there for his use, during untold years, he has attacked his capital, and is every day prodigally diminishing it. On the other hand, the chemist—the great Liebig, for instance—will argue, to take the island of Great Britain as an example—that all its mineral soil-resources for the food and sustenance of future vegetation, are in fact running into the sea through its city sewers—the ultimate end of all its Agricultural production being to feed the vast crowds of humanity there congregated;—and that the entire loss of these mineral elements can only be a question of time, unless prompt means are taken to utilize the sewerage of every town and hamlet,—just as "a well, however deep it may be, which receives no supply of water, must in the end become empty, if its water is constantly pumped out."* Him again I do not fully credit; for while the pump is pouring forth the contents of the well, there may possibly be hidden springs which he overlooks; the capitalist may be spending more or less every year—and yet so long as his expenditures are less than the interest which accrues upon his money, he will be growing richer instead of poorer;—and there is one sense, in which I believe the soil to be, when properly managed, illimitable in its resources—subject to no necessity of our carrying back upon it, pound for pound, exactly the materials, in weight and kind, that our crops have carried off. What land, if such were the law of vegetation, has ever been, century after century, the home of man, whether savage or civilized, which would not in the end have become a desert? It has been claimed that the Chinese† really do accomplish this return to the soil of all the inorganic elements of the food which it produces, but we may be permitted to doubt whether their careful exactness in this respect has not been extolled by travellers somewhat beyond its actual desert—whether, in point of fact, the manure they save and apply, is at all comparable in quantity with that which the English import from other nations in the form of guano, bones, and feeding stuffs for their animals, or mine out of the depths of their own island in the form of useful minerals or the fossil remains of extinct animal races.

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* Letter from Baron Liebig to Alderman Mechi, Nov. 17, 1860.

† Liebig's Letters on Modern Agriculture, page 248.

The Chinche Bug and Deep Plowing.

An old farmer is this town told a young farmer as follows:

"If you ever raise a good crop by late sowing, be sure and not tell your children of it."

I will state a fact in relation to chinche bugs and deep plowing; and *this*, perhaps, should be kept from the children.

In the spring of 1857, I followed the common breaking plow, on prairie sod, with a common steel plow made sharp, and turned a good heavy furrow from beneath the first one, on the centre of the land, being a strip about three rods wide and one hundred rods long.—Since then I have taken two crops of corn and two of wheat from the field through which the three rods strip was double plowed. This year wheat grew upon it, and the three rods strip turned white from the ravages of the chinche bugs, while each side was green and growing. The lines on each side were as straight as the furrows.

Can any one give the reasons? The only one I can find is, that in the deep plowing the bugs found better winter quarters by going deeper. The wheat followed corn. About three-fourths fall plowed, and both fall and spring was done across the narrow strip.

LEWIS CLARK.

BELOIT, Nov. 2d, 1861.

Make Farm Labor Fashionable.

At the base of the prosperity of any people lies this great principle—make farm labor fashionable at home. Educate, instruct, encourage; and offer all the incentives you can offer, to give interest and dignity to labor at home. Enlist the heart and the intellect of the family in the support of a domestic system that will make labor attractive at the homestead. By means of the powerful influences of early home education, endeavor to invest practical labor with an interest that will cheer the heart of each member of the family, and thereby you will give to your household the grace, peace, refinement and attraction which God designed a home should possess.

The truth is, we must talk more, think more, work more and act more, in reference to questions relating to home.

The training and improvement of the physical, intellectual, social and moral powers and sentiments of the youth of our country, require something more than the school-house, academy, college and university. The young mind should receive judicious training in the field, in the garden, in the barn, in the workshop, in the parlor, in the kitchen—in a word around the hearth-stone at home.

Whatever intellectual attainments your son may have acquired, he is unfit to go forth into society if he has not had thrown around him the genial and purifying influences of parents, sisters, brothers, and the man-saving influence of the family government. The nation must look for virtue, wisdom and strength, to the education that controls and shapes the home policy of the family circle. There can be no love of country where there is no love of home. Patriotism, true and genuine, the only kind worthy of the name, derives its mighty strength from fountains that gush out around the hearth-stone; and those who forget to cherish the household interests will soon learn to look with indifference upon the interests of their common country.

We must cultivate roots—not tops. We must make the family government, the school, the agricultural fairs, the laboratories of our future greatness. We must educate our sons to be farmers, artisans, architects, engineers, geologists, botanists, chemists—in a word, practical men. Their eyes must be turned from Washington to their States, counties, townships, districts, and homes. This is true patriotism; and the only patriotism that will perpetually preserve the nation.—GOV. WRIGHT.

Sorghum.

We have favorable reports of the Sorghum crops of the past season. The opening of the war and the certainty of advanced prices had the effect to stimulate the farmers, and the result appears to have been an increased supply of sorghum molasses.

As appears by the statistical returns, the number of acres planted in 1860 was 318 85-100, yielding a product of 51,135½ gallons of molasses and 3,493 lbs. of sugar. Last year the crop must have been considerably larger than this, though we have not sufficient data for a safe estimate.

We have never believed that Sorghum would come to be a great staple crop in our State, but the success which has attended its cultivation on a small scale should be an encouragement to more of our farmers to cultivate it for their own use. Next season we shall expect a much larger crop than ever before.

Western Plantation Sugar Cane Sirup.

The Committee appointed by the Illinois State Horticultural Society, at its late session in this city, to report on the subject of refining the crude Sorghum, or Chinese sugar cane sirup, visited the works of the Chicago Refinery on Saturday morning after the adjournment of the meeting, and deem the information obtained of sufficient importance to make it public at an early day. The following is their report:

On visiting the works of the Chicago Sugar Refining Company, we were cordially received by Mr. Belcher, and were afforded every opportunity for obtaining information. We spent several hours in examining into the process by which the company have so successfully refined the Sorghum sirup and produced the excellent article exhibited to the Horticultural Society. We were assured by Mr. Belcher, and the Chemist and Superintendent Mr. Bender, that there was no secret in the process; although expensive machinery and thorough practical skill are necessary to attain the best results.

We directed our attention to the following points:

1st. What foreign substances are used in refining? Would their use be likely to render the refined product unhealthful?

2d. What is the loss in quantity by refining?

3d. What is the expense of refining?

4th. How does the refined article rank in grade with other refined sirups?

5th. How can the farmers get their sirup refined?

6th. Is there any sale for the crude sirup?

ANSWERS.

1st. A small quantity of lime water is introduced at the commencement of the boiling. Next the sirup is strained through canvas sacks. Afterwards it passes into immense bone filters, containing "bone charcoal." By these three processes a great amount of extraneous vegetable matter is extracted. It is then subjected to a rapid boiling at 160° heat, in what is called a "vacuum pan," which finishes the process.

So far as we could judge, there was nothing used to impair, but rather improve the healthfulness of the refined product. This cannot be said of some of the refined sirups offered in market.

2d. One hundred gallons of fair crude sirup yield about ninety gallons of the refined product.

3d. The cost of refining is not over six cents per gallon in large quantities.

4th. It ranks with the best refined "Golden Sirup." The Eastern refined sirups are not uniform in quality, except in the higher grades. It has none of the "boneset" taste of the unrefined sirup, nor the smoky flavor which often occurs in other refined sirups.

5th. The company offer to receive sirup at any of the railroad depots in this city, in quantities of five barrels or over, and to refine it at ten cents per gallon, returning to the depot, for each man, an equal amount of sirup, less its actual loss in refining; or to return seventy-five gallons for every one hundred gallons received. These figures include drayage, cooperage, and repainting the heads.

The company will sell the refined Sorghum under the new name of (now used for the first time) WESTERN PLANTATION SIRUP. Small packages of ten gallons each may be obtained of them at fifty-five cents per gallon.

6th. The company will now purchase for further experiment 200 or 300 barrels of the crude article at thirty-five cents per gallon, delivered, before establishing any regular price at which they will buy it.

A sirup refinery may be started at a cost of about $12,000. The cost of the machinery alone in the works above was $60,000. It has a capacity for refining 100 bbls. per day in addition to its regular business.

We learn further, from a number of wholesale grocers of this city, that the sirup trade has greatly fallen off since the introduction of the Chinese cane. In numerous localities country merchants do not keep any but Sorghum sirup on sale.

The cultivation of the Sugar cane in the North-West is no longer a matter of doubt. As high as 350 gallons of sirup have been produced per acre. 150 gallons is a small yield. Whether sugar can be profitably produced from it is not yet determined.

We shall soon have a home supply and a surplus to export to the Eastern States.

C. T. CHASE,
H. D. EMERY.

Samples of the Western Plantation Sirup may be seen at the office of the *Prairie Farmer*, No. 204 Lake street, and at the office of the Cor. Sec'y of the Illinois State Horticultural Society, No. 40 Clark street, Chicago.—*Prairie Farmer.*

CROPS IN KENTUCKY.—We have just received the following memoranda of crops in Kentucky, from Hon. L. J. Bradford, President of the Kentucky Agricultural Society:

	1860.	1859.
Total number of Hogs,	1,009,153	1,544,274
Pounds of Tobacco,	97,906,903	95,505,548
Tons of Hay,	115,795	143,157
Pounds of Hemp,	7,691,816	10,101,157
Bushels of Corn,	61,005,316	51,995,956
Bushels of Wheat,	6,759,329	5,808,178
Bushels of Barley,	213,997	372,138
Tons of Pig Metal,	26,359	22,725
Tons of Bloom,	3,519	2,515
Tons of Bar Iron,	6,984	5,389

Crops for 1861 show a very large increase over 1860. The wheat, barley, rye and grasses look promising. Stock looks very fine; our pastures were never better at this season of the year.—L. J. B., *in Ohio Farmer.*

STOCK REGISTER.

Those Wool Clips Again.

LEED'S CENTER, December 10th, 1861.

MR. J. W. HOYT, ED. WIS. FARMER—*Dear Sir:*—In the last FARMER you published a statement from Mr. A. Pratt, and you cannot fail to perceive what an injurious effect the printing of only half of my communication has had upon me, not only in the opinion of Mr. Pratt, but many others who read the FARMER.

Mr. Pratt says I left it to them to infer, that my yearling ewes might or might not have been washed, whereas I said 6 lbs. and 2 oz. of *clean washed wool;* but the words "clean washed wool" were omitted in printing. I still claim to be ahead as I stated in my first letter, and as it would appear if the whole had been printed.

I did not think these lambs alone were hard to beat at all, for they were the lightest fleeced of my whole flock; but I have 31 breeding ewes that sheared 7 lbs. 9 oz. per head, and 17 that averaged per head 8 lbs. 3 oz. Nearly all the above, except the yearlings, raised lambs, and you see they shear considerable more than Mr. Pratt claims for his. This, the heaviest shearing, was all omitted to my great injury.

My sheep are full blood Spanish, and bred from some of the most celebrated flocks in Vermont, such as Rich, Webster, Rumsey, Hammond, &c., some of which could not be got for a round one hundred dollars. Now I wish you to correct the error of the Nov. No. which will amend the matter in part; if not, I shall think others are more highly favored by the FARMER than myself. Yours, A. JONES.

REMARKS OF THE EDITOR.—The communication to which our friend JONES refers as published on page 408 of the November number, certainly does him great injustice according to his statement in the above. It was received at the office during our absence East, sent to the printer by our book-keeper and mailing agent, and all printed, ready for distribution, with the comment at the close, when we returned. Of course we did not think of comparing it with the manuscript copy, at the time, and now the copy cannot be found. We would not, for the whole State of Wisconsin, intentionally do one of our subscribers, or any one else, the slightest injustice, and therefore most cheerfully make room for the explanation contained in the foregoing letter.

Salt for Farm Stock.

Every person is sensible of the good effects of salt upon the human system; we know how unwholesome and unpalatable fresh meats and vegetables are without it. We also know the avidity with which animals in their wild state seek the salt licks, and the difficulties and dangers which they will encounter to reach them. Will this not also apply to animals in a domestic state?

All good farmers salt their animals, but not always with sufficient regularity; and there are many lazy or careless persons who pass under the denomination of farmers, though they are not worthy of the name, who neglect this important duty to their stock.

Horses, cattle, and sheep should be regularly supplied with salt at all seasons of the year, without stint. It promotes their health, improves their condition, and when they become used to it, there is no danger of their taking it in injurious quantities. It promotes their digestion and destroys worms in the stomach and alimentary canal. Horses that are regularly salted are free from bots and cholic, and experience, as well as experiment has shown, that it is highly beneficial to both cattle and sheep.

Boussingault made some observations or experiments with cattle to ascertain the influence of salt upon fattening them. His experiment goes to prove that the increase in weight does not pay for the salt used. His experiments, which extended over a period of thirteen months, were tried with cattle as near alike as possible; the result was that at the end of the thirteen months those cattle which were liberally supplied with salt, had a smooth, glossy coat, and were lively; while those who were without salt were languid and their coats rough and partially bare.

The fine appearance of the salted cattle will command an addition to the price, which will more than meet the expenses of salt.

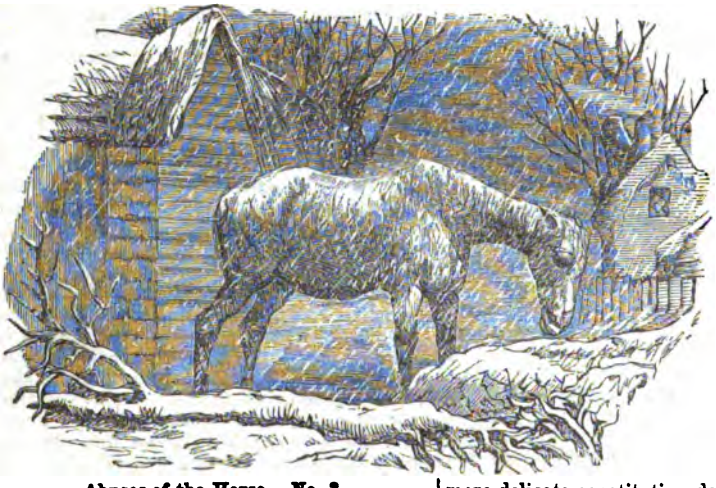
It has always been my practice to salt my cattle once a week when out of the yard. I use common coarse salt mixed with bran, in the proportion of two of bran to one of salt. Imagine your friend S. Harrow, surrounded by some fifteen or twenty oxen, steers, cows, calves, and four or five horses. What better can a good farmer want than thus to collect his cattle around him on Sunday morning, let

him mark how much better "that droop horned roan has fed than that straight horned ball-face," and govern his next year's purchases accordingly.

In the winter time, when the cattle are in the yard, I think it is an excellent plan to have good, strong stationary boxes in different parts of the yard, each containing a lump of rock salt, if it can be obtained; if not, then use coarse salt once a week.

Some use the salt from the fish or beef barrel; this I think is injurious, and will do more good on the asparagus bed, to which it is always taken, by SPIKE HARROW in *Germantown Telegraph*.

Would that we could say in answer to all these questions, none, no not one! But then, unhappily for the credit of our farmers, we know there are hundreds of poor creatures suffering from these very causes while we are writing these words of reproach. At least we have witnessed these abuses in other winters, and have too little reason to believe that an entire reform has been effected in this important branch of farming—the care of domestic animals.



Abuses of the Horse.—No. 3.

There he stands, forlorn and desolate! a poor, half-starved, wretched outcast, weathering the pitiless storm, and feeding upon scattered straws and sticks, that his barbarian owner may the more undisturbed lounge at his ease and doze over the warm crackling fire on his hearth. Of how large a number of this noblest race of domestic animals is the above engraving a faithful illustration? Nay, to come a little nearer home with our question, how many horses are there to-day, in Wisconsin, of whose condition the above is a correct picture? How many are accustomed to be left during the day to stand around some old straw stack or over an occasional forkful of coarse, wiry, brush hay, with never more than the sight of a sheaf of oats or ear of corn, and often without drink for two or three days at a time, and compelled at night to shiver in the storm of sleet or snow?

Straw-stacks, in conjunction with judicious feeding, watering and shelter at night and during storms, may be made to answer a good purpose; but where they are used as the almost sole defence of the animals on the farm — especially of the horse whose more delicate constitution demands the best of care and keeping—they are an abomination and had better even be burnt.

The horse subjected to fare, such as we have described above, can hardly fail to come out in the spring—if, indeed, he shall be so fortunate as to come out at all—a "rack of bones," with dry, dead, staring hair, a hideous "pot belly," and the skin harsh and unyielding, as if it had lost all its elasticity and had been glued fast to the remnant of flesh that may cover his skeleton frame.

It may be hardly pardonable in us to even imply by the above graphic cut and the few hasty words subjoined, that any reader of the FARMER could, by any possibility, be guilty of such brutality towards his most trustful, obedient and faithful servant, the horse; but somehow the spirit moved us to write, and we have written. *If anybody is hit, let him repent and reform.*

Ox Teams and Horse Teams.

It is generally agreed that horses travel faster than oxen, and that on a farm consisting of plains and destitute of rocks a pair of horses will do more on the plough and harrow than a pair of oxen.

Horses will wear longer than oxen, that is, farm horses will last to work till 20 years old, but oxen should not be kept half so long, though some would work till they are 14. But after admitting so much we may be allowed to say a word or two in favor of the practice of keeping oxen.

And first as to the cost of the animals. Oxen of equal weight with horses are bought for one half the price. Oxen are worth something after they are worn out in work—horses are not.

Oxen are not half so liable to disease as horses are. An insurer will ask fourfold more for insuring the health of horses than of oxen.

The gearing for oxen costs less by half than that of horses. A wooden yoke lasts longer than leather harness and it is put on and off in half the time.

One chain answers for two oxen—but two horses must have four. Oxen are more patient than horses, and will carry a more even yoke. They start a load better than horses, particularly in a snow path, where the runners stick to the snow.

Oxen can be entrusted with hired men at less risk than horses. They are soon taught to draw the plough and to be driven by the ploughman without any reins.

We have not a large proportion of farms without rocks and stumps, and where the land is rocky there is no comparison between oxen and horses.

In regard to cost of keeping there would be but little difference if both were kept on the same food. But many of our farmers keep oxen through the winter on coarse hay, straw, and husks, which would not keep horses alive.

Our own oxen (half blood Devon) never have any but cheap hay, husks, &c., through the winter, though they labor much of the time. When April comes they are kept on good hay and thus they learn the difference between cheap and costly living. Oxen of the right breed are very readily fattened and their beef is better than that of cows or young cattle, and brings more in the market.

When farmers quit raising and keeping oxen, people must quit eating beef, and tanning ox hides.

Abuse of Old Horses.—A writer in the Ohio *Farmer* very justly complains of the too common abuse and neglect of old horses—of those which are past their prime. They are made to break the colts, and often work with them, thus requiring quicker movements than are natural, or than the old horse is able to give without straining and injury. "The old horse," he says, "should not haul his load to town, and then be forced to trot back. It does not injure him as much to do the heavy work with slow motion, as to do the light jobs at a quick gait." He should also have, as he requires, more time to eat and rest, and his place in the stable should not be taken by the colts so that he is turned into the yard. The writer further remarks, (and we cannot but condemn the abuse, and hope it may become less common), that "the last part of a horse's life may be more profitable, if rightly used, than the first part. There is more comfort and less danger in working old horses. We understand them, and they understand us; and we should be as willing to conform to their nature, as they are to conform to our wishes. It would be more humane, as well as more profitable, to use them as they should be, as long as it would pay, and then take them out and shoot them down. But the practice of many is to knock them about as much as they will bear, and pay well, and then trade them off to some *more inhuman wretch than themselves.*"

Wintering Sheep.—The three great requisites for successfully wintering sheep, are, 1, good and regular water and food; 2d, good, clean shelter; and 3d, keep them in small flocks. The following is the method adopted by Robert J. Swan, of Geneva, N. Y., one of our best farmers:

I consider, for my fattening sheep, the best mode is to have good, deep sheds, (34 feet), racks to receive the straw or hay, and troughs to feed their meal in, and keep the yards well littered with straw. We feed to fattening sheep two bushels of corn, or two bushels of oil-cake meal, to the hundred sheep, with plenty of good bright wheat straw, three times a day, till the 1st of March, at which time we give them hay, in their racks, three times a day, and one bushel of corn or oil-meal per day, per hundred. My store sheep, we give plenty of bright oat or wheat straw in racks, three times a day, and one bushel of corn or oil-cake meal per hundred, till the 1st of March, at which time I give them hay and no grain, but always take good care to see that all my stock yards are well littered with straw. My lambs I feed hay three times a day, and three pecks of oil meal or corn meal to the hundred. All of the yards well supplied with water.

I never lose my sheep in winter, but more in summer, and those the fattest and the best—about two per cent. Judging from what I have noticed on Mr. Johnston's farm, I think the fine wooled sheep less subject to disease than the coarser breeds. Where small flocks of coarse wooled sheep are kept, I think them healthier than those kept in larger, or in moderate sized flocks. Having been a pupil of Mr. Johnston, I adopted his course of farming, both in cultivating my farm, and fattening my sheep.—*An. Reg. of Rural Affairs.*

Interesting Experiment with Sheep.

The first stage of a very interesting experiment undertaken by the Parlington Tenants' Club, to prove the fattening qualities of certain breeds of sheep, has just been brought to a conclusion, and the results presented to the public. From the accounts published elsewhere, it will be seen that there were eight different kinds of sheep, and that each lot were turned into a two-acre plot of a 16 acre field, each plot being of equal grazing value. The lots consisted of, 1st, ten crosses from the Teeswater with the Leicester; 2d, twelve crosses from the Cheviot with the Leicester; 3d, ten Lincolns; 4th, ten Southdowns; 5th, ten Shropshire-Downs; 6th, twelve Leicesters; 7th, ten Cotswolds; and 8th, seven odd sheep, one from each of the above classes—all hoggsts. The fairness of the trial would thus appear to be somewhat vitiated by the difference in the numbers. The cross Cheviots and the pure Leicesters would have a sixth less grass than five of the other lots, and five-twelfths less than the old sheep.

The lots were all turned into grass on the 23d May. A fortnight after this, they were weighed. The weight of the Teeswater crosses were 106 stone, 3 lbs.; of the Cheviot crosses, 124 stone, 13 lbs.; of the Lincolns, 125 stone, 9 lbs.; of the Southdowns, 97 stone, 10 lbs.; Shropshire-Downs, 101 stone, 6 lbs.; odd sheep, 69 stone, 7 lbs.; Leicesters, 116 stone, 3 lbs.; and Cotswolds, 90 stone, 9 lbs. Between this date and the 4th of October, the sheep were weighed four times. The results of each weighing will be found tabulated in another column; we will here therefore, only allude to the last. After four months' grazing, supplemented by 3 lbs. of linseed cake per day, from the 17th of June, to the 1st of August, and thence-forward with 6 lbs. per day of the same materials, it was found that the Teeswater crosses had added 18 stone, 1 lb., or nearly one-sixth, to their original weight; that the Cheviot crosses had added 18 stone, 9 lbs., or a little more than one-seventh; the Lincolns, 6 stone, 7 lbs., or about one-twentieth; the Southdowns, 13 stone, 2 lbs.. or less than one-seventh; the Shropshire Downs, 20 stone, 8 lbs., or about one-fifth; the odd sheep, 11 stone, 10 lbs., or about one-sixth; the Leicesters, 24 stone, 7 lbs., or nearly one-fourth; and the Cotswolds, 19 stone, 6 lbs., or more than one-fifth of their original weight. The advantage is thus in favor of the pure Leicesters and Cotswolds. The Cheviot crosses, however, do not seem to have had enough of grass, having decreased, instead of gaining in weight during the last month.

One sheep of each class was tried on grass, without any artificial food. Under these conditions, the Cheviot and Leicester crosses greatly surpassed all the rest, making three stones in four months.

The grass eaten, is, of course, an item when profit comes to be calculated, and the Cheviot crosses appear to be the greatest consumers. Next to them the Lincolns and Shropshire-Downs bared their pastures most, and after them the pure Leicesters and Cotswolds. The fact that the sheep were not all in the same condition when procured, must also affect the experiment to some extent, but it is to be commended as a step in the right direction.—*Scottish Farmer.*

Cure of a Bone Spavin.

Levi J. Reynolds, in the *New England Farmer*, thus states how he effected a cure of a bone spavin:

I have a fine mare, which, three years ago, became very lame from a bone spavin on the inside of the left hind leg. After pretty hard driving for several days, she became so lame that she was unfit for use. The spavin was very tender, and she rested the foot constantly on the toe when she stood. I took her to the blacksmith, and directed him to put on a shoe without any toe corks, thus relieving the contracted cord of the strain to which it had been constantly subjected. In a short time the inflamation and tenderness subsided. The swelling abated; she traveled very well. She wore off the inside cork faster than the outside one, when she began to be lame again. I then had the shoe re-set and the corks made of the same length, and she soon became well. After a few weeks I had the corks shortened a little, and the next time she was shod, a little more, but still have her wear heel corks an inch or more in length. There is a slight enlargement of the bone where the spavin is seated, but she performs hard service and is not at all lame.—Several of my neighbors have applied the same remedy, with equally good results, and I think that a little thought and observation will satisfy any one that this is the appropriate remedy. The cords attached to the part where the enlargement is seated, become inflamed and contracted, and raise up the heel from the ground. When the horse brings the heel to the ground the cords are strained, and become irritated and inflamed. The long corks keep the heel raised permanently, and thus prevent the cords from being strained, and allow the inflamation to get well. Some enlargement and a slight degree of stiffness may remain, but seldom enough to affect the gait.

Cattle Racks.—A western farmer who feeds 150 head of cattle, estimates that the construction of good feeding racks saves him at least five tons of hay yearly—more than enough to pay annually for the racks. Judging from the amount of hay we have often seen trodden in the mud, or used as litter by the cattle, as many tons would be yearly saved by some who have not 50 head.—*An. Reg. of Rural Affairs.*

The Wool Trade.

The week past has been characterized by more dullness than for several weeks, and there is no certainty of an immediate rally. The excitement consequent upon so large a demand for ordinary goods for army purposes, has, in a measure died away, as the supplies come from the fabricator and from abroad. No matter what course the events of the day may take, or even what may be done or left undone, by the 600,000 soldiers now in the field, no necessity can occur for such large and such immediate supplies as during the past four months.

The first year requires more goods for soldiers than the subsequent two or three years, the following being the Government allowance of clothing each year, for five years, by the United States army regulations:

	1st year.	2d.	3d.	4th.	5th.
Hats,	2	1	2	1	1
Caps,	4	1	1	1	1
Shirts,	3	3	3	3	3
Drawers,	3 prs.	2	2	2	2
Stockings,	4 prs.	4	4	4	4
Pants,	3 prs.	2	3	2	3
Jackets,	2	1	2	1	2
Overcoats,	1 in five years.				
Boots and shoes,	4 prs. per year.				
Blankets,	1 pr. each other year.				

These goods, of the first year, would require to each soldier about 40 pounds merchantable wool, and for 600,000 men, no less than 24,000,000 pounds wool in the aggregate, which we suppose now is supplied from abroad in part, and the balance from the low, medium and medium fine produced at home. The next year, this demand will be reduced to 13,200,000 pounds, for the same purpose; and on the third year, the same number of men would be allowed additional blankets, and swell the demand to 18,000,000, or only three-quarters of the present year's supply. These several amounts are in some measure additional to the regular demand of the country, and its consumption in times of peace, and the great and unusual demand having exhausted to a great degree our coarse wools, a large and immediate declension in those wools need not be expected.

It is a fact, that sales for the last ten days are not so easily brought about, at the extreme prices of the 20th to the 31st of October, and our own wools, of certain kinds. having already gone unusually early to manufacturers and been manufactured, the supply, always short, even now being nearly exhausted, any necessity for such goods must, until next shearing, be met from abroad, and consequently tend to reduce the price in the spring and summer ensuing. Nevertheless, coarse wools are now, and will, without doubt, continue to be in demand at figures above the average of the past years. No movement has taken place in fine, nor do we expect, for the present at least, that the same prices can be obtained as in years gone bye.

Influenza in Horses.

H. N. L. asks the following question: What is the best preventive or cure for "distemper" in horses?

Remarks.—It is quite rare that horses are seriously affected with this disease when they run at large. It is most frequent in the spring season, and most serious in those stables in which ventilation and cleanliness have little or no attention. The inference is, that horses, by breathing the foul and debilitating atmosphere of an unventilated stable through the winter, are in a proper condition to take this disease when the exciting cause—a peculiar or infected condition of the atmosphere—appears.

The preventive, of course, suggests itself.—After the disease has once been engendered, the proper course is, to remove the causes, when the animal will usually recover with little treatment. Let the stable be kept warm. Secure this by exposure to the rays of the sun. Cover the horse with a blanket and give warm drinks to induce perspiration. Move the bowels by green food, or bran mashes, rather than by physic.

If the case is severe, make a nose bag about two feet long, of wire, leather, or slats of wood, with a strap to secure it by passing over the head. Let the bottom contain holes for surplus water to pass off. Fill it half full of finely cut, clean rye straw, which has been saturated with vinegar. Pour on this a pailfull of boiling water, and then place it to the horse's nose, and secure it over the head for steaming the nostrils.

Repeat twice a day for a few days, if necessary. Be careful that the surplus water passes off, and that the heat emitted is not so great as to burn the nostrils. Renew the water in twenty minutes, and continue the operation for forty minutes. When the bag is removed, wash the nostrils and face with water and wipe dry. Should there be swelling under the chops, poultice with corn meal or flax seed poultices. Do not physic or bleed.—*Ohio Farmer.*

Hold up your Whip in Driving Oxen.—The *Ohio Farmer* says there is more in the movements of the driver of an ox team, and in the carrying of the whip, than most farmers think. Oxen, however quick in their movements or upright their walk in the yoke, soon become dull, and get the practice of "shoving" or "hauling," in consequence of the driver lagging along, or, as is often the practice, going ahead of the team, and from time to time stepping back and whipping them. A driver of an ox team should walk directly opposite to the yoke, walk straight, and carry his whip as upright as a soldier would his gun. Use a whip stock with a short lash, and touch the cattle only with the lash, and never strike them on the nose or over the eyes.

Lampass in Horses.

Having read an article in your columns about the lampas in horses, and the writer wishing for further information, I thought I would give him all that I could.

The disease consists in swelling of the roof of the mouth, near the front teeth, and is sometimes higher than the teeth. It happens generally between the third and fifth year, and is supposed to prevent a colt from gathering his food with ease, so that on that account he falls off in feeding, and consequently in flesh or condition. The usual remedy is to sear the parts next the teeth, with a piece of iron made for the purpose, or cut the parts until they bleed freely.

These remedies are still generally practiced, nor is it possible, I believe, for vertinary surgeons to prevent its being done. The lampas, as it is called, however, is not the cause of the colt's ceasing to feed well, and falling off in flesh; it depends upon his cutting the grinding teeth at the proper time; and if, instead of burning and cutting the lampas, as they term it, they would keep them entirely on bran mashes for a week, he would be able to eat his hay and corn with avidity; for the stomach, which always sympathizes with the mouth in the painful periods of detention, is quickly restored, when the power of mastication returns.

We often find, when the lampas is present, that the membrane of the mouth just within the corners of the lips, is so swollen as to get between the grinders, thus preventing the animal from feeding. When this is the case, it is commonly called bags or washes, and may be removed by swabbing the mouth with a weak solution of the sulphite of iron. This disease is often occasioned by the bearing rein being too tight.—B., *in Germantown Telegraph.*

Regularity in Feeding.—Every good farmer knows that any domestic animal is a good clock—that it knows almost to a minute, when the regular feeding time has arrived. If it has been accustomed to be fed with accuracy at the appointed period, it will not fret until that period arrives; after which it becomes very restless and uneasy until the food comes. If it has been fed irregularly, it will begin to fret when the earliest period arrives. Hence this fretting may be entirely avoided, by strict punctuality; but it cannot be otherwise. The very moment the animal begins to worry, that moment it begins to lose flesh; but the rate of this loss has never been ascertained—it is certainly worthy of investigation—and can only be determined by trying the two modes, punctuality and irregularity, side by side, under similar circumstances, and with the same amount of food, for some weeks or months together.

There is one precaution to be observed in connection with regular feeding, where some judgment is needed. Animals eat more in sharp or frosty, than in warm and damp weather.—Hence, if the same amount by weight is given at every feeding, they will not have enough when the weather is cold, and will be surfeited when it is warm and damp. Both of these evils must be avoided, while a little attention and observation will enable the farmer to do it.—*An. Reg. of Rural Affairs.*

Gypsum.—If you can procure gypsum—plaster of Paris—sprinkle a small quantity every morning over your cattle stalls. It is a good absorbent of ammonia, and consequently tends not only to economize a most valuable element of vegetable nutrition, but to sweeten and purify the air. The generation of ammonia in stables, and other confined situations, is not unfrequently the cause of disease, and should be prevented. Copperas water sprinkled over the floors and surface of cattle-yards, has a still more sanitary effect. It is a powerful deodorizer, and should be liberally used about out-buildings, especially in hot weather.—*New England Farmer.*

THE BEE KEEPER.

Random Thoughts Upon the Bee—No. 3.

BEES IN GENERAL.

I shall waive a description of the different species of bees disseminated throughout the natural world by the Great Author of Nature, and confine my remarks solely to the common bee, or honey fly, particularly, as the most social, sagacious, interesting and useful, of all the instinctive tribes of animals.

Abbe Rosier, one of the best informed of the French agriculturists, particularizes four species of the domestic bee. The first species are very long and brown; the second are less, and almost black; the third are still less, and of a gray color; the fourth are still less, and of a bright yellow, shining and polished, and known only in Flanders.

The bee rises with the dawn, and rests only at the shades of evening, and continues her industry throughout the year, in all countries where the frosts of winter do not impede her labors. The bee is the only insect whose sagacity has taught us that honey constitutes the essence of the blossoms of plants, and by her industry has imparted to man the luscious boon. The whole vegetable world is the garden of the bee, and her cell her store-house.

The community of the bees is the first, the greatest and best example in nature, of a perfect community. In their harmony and good order, mutual enterprise, and efforts to promote the general good, in their ardor of pursuit in quest of stores to load their legs, back and wings, and flit away to the store-house of common deposit; and in their mutual aid in assisting each other to unload their burdens, together with their wise economy in feeding out of the common stock.

The community of the bee is not a republic, but a brotherhood; a monarchy with a community of goods, and governed by a queen.—The queen is not the tyrant of the swarm, but the mother of the swarm. She is not the dispenser of laws to the swarm, but the subject of the same fixed and immutable laws of nature, which govern every bee in the swarm.

The bees know each other, and are armed wieh a sting for common defence. They know their keepers, and generally respect them.—They possess natural disgusts, which have not yet been fully accounted for, and attack and sting the objects of this disgust wherever they meet them, *invariably*. The bee is very sagacious in judging of the weather, and avoids the storm by retiring to her hive, or sheltering herself under the foliage of plants and trees.

The whole swarm manifests an affectionate attention to the queen mother, unexampled in nature; and are constantly employed for her support and preservation. The natural period of the life of the bee is not yet known; but they are more generally the victims of the casualties of nature than of old age. The dysentery is the most common and fatal malady, and they destroy by violence all the lame and infirm, together with the drones, by banishing them from the hive, thus illustrating the sacred maxim, "He that will not work, neither shall he eat," with the addition of their own natural law, "He that cannot work, neither shall he eat." The first is perfectly conformable to the principles of humanity, and common sense; the latter is repugnant to both. A general, as well as a particular system of cleanliness, pervades the community, and no dead bee is suffered to remain in the hive.

The particular laws of instinct begin to govern the bee as soon as it quits its nymphal state, and is capable of action; and one uniform system of order regulates his movements, in union with the whole swarm, throughout all their instinctive operations. As well might the wise man have said, "Go to the *Bee*, thou sluggard; consider her ways and be wise."

W. H. MORRISON.

TROY, WIS.

AGE OF BEES.—Many people say bees only live six months; now I have two hives, to each of which I introduced a Ligurian queen, by fumigating them in July, 1860. In October, I bought a swarm that had been already fumigated, to take the honey; I fumigated it to take the queen away, and then added to it one of my Ligurian queens to strengthen her. Now, this is the 16th of September, and there is not only a large number of English bees in the Ligurian swarms, but also a great number in the old stocks, the Ligurians having swarmed—one twice, and the other (that from which I took the Ligurian queen to add to an English stock) three times. Now there is a large quantity of bees alive that must be more than a year old; and not only are they that age, but many of them have been fumigated twice. As I am not clever enough with bees to take the queen away without fumigation, I generally use it, and have found, when carefully done, very little loss, and after a day or so the bees seem to have quite recovered.—*London Field.*

☞ I once, in searching for a young queen, placed the frame on which she was too near the next frame and not in the position I found it. The queen at the time had her head in a cell. The comb at that point projected a great deal. Two days after this, I searched again for the queen, to show her to a friend, I found her in the position in which I last saw her, nearly starved, and past recovery.

Colonies infested with worms are often seen carrying out imperfect and mutilated bees.—E. P., *in American Bee Journal.*

NOVEL EXPERIENCE.—A young man named Hunter, living some six miles east of Polk City, on the prairie, where trees and fences were wanting, was the other day placed in a rather trying position. A large swarm of bees seeking a resting place, settled upon his person, completely covering his legs and body. In this condition he walked to the house, some 100 rods distant, where, obtaining a box, the bees were successfully hived, without injuring him.—*Des Moines Journal.*

Look to the Apiary—January.

Hives that are to remain out doors during the severe weather of this month, should be well ventilated, or they will smother; notice them occasionally to see that the air passages are not closed by dead bees, frost or ice.—Whenever the weather moderates, turn back the hive, and clean the floor thoroughly, as much filth will accumulate. Endeavor to have the hives so situated that the sun will strike them during the middle of the day. If guarded from mice, no trouble need be taken to shovel them out when they happen to get buried in the snow.

Those that are in the cellar or house should remain unmolested, unless it is to notice that mice or rats gain no access; small pieces of comb are sure indications of their presence. Keep the air pure and sweet by scattering air-slaked lime upon the floor. W. H. MORRISON.

THE HORTICULTURIST.

A. G. HANFORD, : : CORRESPONDING EDITOR.

Orchard and Fruit Garden.—Winter Protection.

As much as we said in the last volume on this subject, we wish still to urge upon the attention of gardeners and fruit growers the necessity of protection to half hardy, and even hardy trees and plants from the extremes and sudden changes of the weather during the winter, and especially after the first days of January. But little damage is done before this time, as the oblique rays of the sun have little effect upon the dormant vegetation.

We must say, that in all our experience in the West, we have never before seen the wood of trees and plants go into winter quarters so well ripened, and so full of constitutional vigor. But when the bright suns of February and March shall come, there will be some suffering, unless we have an unusual amount of snow and uniform weather.

To prepare for the worst is policy. Begin by thoroughly mulching with straw manure, or litter, the door-yard shrubs and garden fruits; lay it on gently but plentifully, and if there is no snow on the ground, all the more. Cover the strawberry beds lightly; they are all right now, but may kill out in March or April, without some shading.

Grape vines can still be pruned; and the first mild weather should be improved to prune, and cover them with litter when thrown on the ground. Cuttings and scions can not well be made now, but do it in mild weather; do not cut when frozen.

If you have trees or shrubs of any description which are tender, and not easily covered with mulch, bind long straw around the trunks, wind with old cloths, mats, or even paper. An excellent way to treat tender, long bodied trees, is, to tack two strips of lath or boards together in the form of a trough, and bind against the sunny side of the trunk; or, in other words, make a north side all around, by shading the sunny side. Trees on the north side of a fence, building, grove or hill, generally escape injury, while those upon the sunny side suffer severely, from the great changes of atmosphere to which they are subject in the latter part of winter.

Protection from rabbits is secured in several ways: First, by binding with straw, &c., as mentioned above. Another very simple and efficient way, is to bind three or four cornstalks round the trunk, at the ground. Another antidote for their tree-loving appetites, is to thoroughly rub a dead rabit upon the trunk, one animal being found sufficient for a number of trees. This was recommended to us by a friend who had faithfully tried it for two years, in a locality terribly infested with rabbits and mice, and he assured us that it was efficient.—Further, we know nothing, but would commend it to trial by persecuted fruit growers.

We have noticed that rabbits are partial to pears, and some other varieties of vigorous, soft wooded trees. These should be looked to first.

Rabbits, as well as mice, are not commonly fond of tobacco; an occasional wash with a strong decoction will prevent their depredations. Do not use any sort of grease, or tar,

during winter; it can be safely applied only during the period of growth in the spring and summer. Yet, a stiff varnish applied would not injure trees any time.

The simple reason why grease cannot be applied safely during winter, is that the fluids are nearly dormant, and consequently the grease would gradually penetrate to the cambium—or inner bark—and forever prevent the flow of sap therein; but the same application made during the flow of sap, in the spring and summer, would be harmless—like greasing a wet boot. J. C. PLUMB.

Valuable Contributions Promised.

We deem ourselves fortunate in having been able to engage the services of A. G. HANFORD, Esq., late of Waukesha, and so favorably known to our readers and to all fruit-growers in the West, as a corresponding Editor of the Horticultural department of the FARMER. His contributions are always reliable and of a great value, and the readers of the FARMER will be glad to learn that his removal from the State has not deprived them of his instructions and suggestions. The following letter announces his assent to propositions made:

DR. J. W. HOYT, *Dear Sir:*—In reply to your request, I would say that you may give your readers to expect a monthly article from me according as time and circumstances will permit.

It is true, I have had much observation in the Northwest, and a good deal of dear-bought experience.

The lessons thus acquired, I would most cheerfully give to others.

Wisconsin is already indebted to Ohio for many of her hardiest trees and finest orchards. I find growing here some other excellent varieties of apples which are unknown with you. Then too we have in cultivation a large list of ornamental trees, shrubs and flowering plants, some of which will be new to the readers of the FARMER. Notices of these will be given from time to time, with general hints on planting, care and culture.

Very truly yours, A. G. HANFORD.

COLUMBUS, Ohio, Dec. 16th, 1861.

Winter Pears.

Everybody is familliar with the old cooking varieties of winter pears, "the Pound," or "Winter Bell," and "Black Worcester." Many suppose all winter pears are of the same character.

There are quite a number of long keeping, fine dessert sorts, which only need to be known to become popular.

There is no mystery or peculiar skill required to manage and ripen them; they should be suffered to hang upon the trees as long as they are safe from frost. Pick carefully, so as not to break the stems or bruise the fruit; place in tight boxes or barrels, and keep in a dry, cool cellar, until the usual season of ripening.

Remove in such quantities as may from time to time be desired, to a warm room, a few days before wanted for use.

It may be observed that no fruit shows the effect of culture more plainly than the pear. There is as much difference in the ripening and quality between the well grown fruit of a properly cultivated tree and that of another left to starvation and neglect, though of the same variety, as is observable in any garden vegetables subjected to similar treatment.

Brief descriptions of a few varieties may interest your readers.

Beurre d'Aremberg.—Fruit, medium to large, obovate, skin thick, yellow with light russet, flesh white, buttery, melting, juicy; flavor, rich, sprightly vinous. Tree, a good grower, very productive, requires high culture, ripens in November and December.

Glout Morceau.—Fruit, large obtuse pyraform, skin smooth greenish yellow, with many greenish specks, flesh white, fine grained, melting and buttery, with an agreeable sweet rich flavor. Tree, a thrifty, fine grower and good bearer, suited to strong soil and high culture, succeeds admirably upon the quince. Season, November to January.

Vicar of Winkfield.—Fruit, large, long pyriform, showy and handsome, skin smooth, pale yellow, sometimes with a brownish cheek.—Flesh white, juicy, with a sprightly flavor. This is a fine cooking, and often, though not

always, a good dessert fruit. Tree vigorous on both pear and quince, hardy and exceedingly productive. ' · blossom buds seem a little tender, and in tl. north, after several winters, the crop often fails. Elsewhere it is regarded as a profitable market variety.

Our trees at Waukesha yielded a moderate crop in 1860, and a heavy one the past season, which is now ripening, and are unusually fine. November to January.

Lawrence.—Fruit rather large, long obovate, yellowish green, flesh yellowish white, juicy, melting, rich, sugary, excellent. Tree, moderate grower, shoots rather slender, very productive, does finely on either pear or quince.—November to January.

Passe Colmar.—Fruit, large obovate to obtuse pyriform, pale yellowish white, juicy and buttery, sweet, rich, aromatic. Tree vigorous, making long straggling shoots, inclined to overbear. Fruit should be thinned, and the tree receive high culture. Succeeds well on quince. November to January.

Winter Nelis.—Fruit, medium round obovate, yellowish green when ripe, with much russet; flesh yellowish white, fine grained, melting and juicy, rich, sugary and aromatic. One of the best of winter pears. Tree thrifty, shoots slender, straggling; an early, good and regular bearer. Should always be grown as a standard, as it does not succeed on the quince. December to January. A. G. HANFORD.

COLUMBUS, Dec. 16, 1861.

The Borer and the Sapsucker.

MR. EDITOR:—I observed in the April No. of 1861 a new mode of saving trees from the ravages of the borer. All information relative to the destruction of that pest, ought to be gratefully received by every orchardist. Having discovered the borer in some of my apple trees the past summer, and having tried the probing system, and all remedies suggested, without any apparent effect I tried the following, by way of experiment, which I believe has proved effectual: I took with me to the orchard a pipe and tobacco, lit the pipe, and then put the stem into a hole I had previously bored with a half inch auger, and then blowing into the bowl of the pipe forced the smoke into the hole made by the borer, and I have not seen anything of the borer since. J. ROBERTS.

RIDGEWAY, Nov. 26, 1861.

Illinois State Horticultural Society.

Being a self-constituted committee from Wisconsin to report the good deeds of the Illinois Fruit men in council, in Chicago, Dec. 3d to 6th inclusive, it is with pleasure we accept your request to publish our short and simple "say" in the *Farmer*. The attendance at the above named meeting was good, and we should think fully equal to any of the preceding annual meetings. Ohio, Indiana, Michigan, and Wisconsin, were represented in the council by one from the two former, two from the second, and six or more from your own State. Those from abroad were principally *hearers*, while those of Illinois were *doers* of the work and word in the good cause they so nobly represent. A whole souled set of men they are too; ever willing to "impart what little they know" of any value to the brotherhood, and in spite of *their* invaluation of their knowledge, much valuable thought did escape from their "craneums;" which, like the silent drippings of the sanctuary, is destined to do good—sometime. We wished that every orchadist (as well as those who would be) in Wisconsin were there to hear of the troubles and discouragements of the fruit growers, even far towards the Sunny South. I would say to one and all who think this is "not a Fruit State," that we are far ahead of Northern and Central Illinois in point of soil, aspects and protection. It was the universal opinion that the last named was absolutely necessary to many fruits in winter, especially grapes and peaches.—Pears, particularly the dwarfs, and cherries were much benefitted thereby, and apples, with all the rest, would thankfully receive a thorough mulching *winter* and summer.

The Grape discussions were full of interest. Delaware, Concord, and Diana, were lauded most. A fact was brought out in regard to the growth of the Delaware of much value, viz.: That while the young plant brought here from another climate is *universally* of slow growth, frequently hard to make live at all,—these same plants, layered, as soon as new growth is made sufficiently, (which requires but two or three eyes) and you have a plant full of vigor,

adapted to the Western soil, climate, and hardships—a plant which will grow with almost any known sort, while the parent plant, with equal care and soil, too often "grows beautifully less." Concords were admired by all for quality, hardiness and fine appearance of fruit. Diana not so thoroughly tested, but met with much praise.

Deep and thorough cultivation was deemed indispensable, trenching to an equal amount in depth in the sub-soil with the surface soil, and mixing all together thoroughly. In this mixture grape cuttings rooted well and vines withstood the drouth, and more than all, the roots *would get down* more effectually out of the way of the frost, and hence winter better. Too heavy fruiting is often allowed. By thinning the fruit and leaving *all* the vine growth beyond the fruit, will hasten the ripening process several days.

Strawberries had a severe handling, but they *all* came out none the worse for it, while a few had their garments cleansed and their colors brightened. Wilson's Albany, "the berry for the people," is getting a little sour—else some of the strawberry growers had their teeth set on edge by some still worse—and now have no hope of a "smooth run" on any thing short of the Triomphe de Grande. Many efforts were made to displace the Wilson from the general list, but to no avail; it is yet the plant for the masses—a large, abundant bearer, tenacious of life, and does well everywhere. Evidently somebody's pockets needed a new hobby to ride on. Wilson is too common—not much sale. Hooker was thought best for amateurs, and all who would serve for it; rather a shy bearer, but fruit of super-excellent quality. Triomphe de Grande, and many other foreign sorts, were strongly urged, but *most* of the Society proved "know-nothings" with foreigners (strawberries).

Dwarf Pears.—Plant so that the union comes below the ground. If budded too high so as to necessitate planting the roots too deep, remove the lower portion of them; cut back, and mulch thoroughly.

The show of fruit was fine; Col. Crocker, of Milwaukee, made the best display of pears, and it was a display, well worth the name; the grandest specimens the writer ever saw for the number, nearly twenty, (and he thinks he has seen the sights). Plumb, Willey & Co., Vine Hill Nursery, showed twenty-five sorts of apples, and Dr. Hoy, of Racine, apples and pears, which made up all from out of Illinois.

The address of welcome from C. D. Bragdon, President of Chicago Gardner's Society, and the President's Inaugural and Valedictory combined, were things of interest in the first day's history, and will be of interest to read hereafter. Dr. Hoy delivered an address the second evening on "sap-suckers" and other insects injurious to fruit trees, well worth a place in every orchardists library, and then to be studied, too.

Then last if not least in the programme was the entertainment by the Messrs. Gage Brothers of the Tremont, who, with their usual generosity, invited the Illinois State Horticultural Society to their repast on Friday.

Though many members had gone home, and our numbers were much reduced, still about forty-five accepted the invitation. The bill of fare was all that could be wished, and the wine, pure Catawba from several vintages, was certainly "not bad to take." Several toasts were drank and responded to by Messrs. M. L. Dunlap, Chase, Bragdon, Menere, and others. The whole thing passed off in good style, and much to the satisfaction of all concerned.

O. S. Willey.

How to Destroy Bark Lice.

I will give you a better receipt than coal tar for Bark Lice:

Burn roll sulphur with old scraps of leather, under the trees to be treated, in a pan, moving it about so as to smoke thoroughly every twig affected. I have tried this when all else failed, and found it effectual. It is done to the best advantage when the leaves begin to start; for then these pests are most lively, and most easily killed.

N. F. Thomas.

Burnett Station.

Apple-tree Blight—Cause and Remedy.

PROF. J. W. HOYT.—*Dear Sir:*—Mr. Hinkley's querry, as to the cause of the bark of the apple-tree turning black at the crown, is a question of much importance; and to give an explicit answer, I ask your patience for a moment while I refer to other questions that are in reality involved in the above inquiry.

My experience has taught me that the evil is produced by extreme freezing, after thaws in winter and spring; and the ground upon which the trees stand, being cultivated and kept free from vegetation, is from its nakedness rendered more susceptible to the influence of sudden changes.

For instance, the ploughed field thaws to a greater depth than the grass field, because the former absorbs the heat of the sun, while the latter reflects the same. The tops of the trees are not effected by these sudden changes, because, being continually in contact with them, it becomes a natural condition incidental to the growth and development of all trees in latitudes where Nature has designed each species to grow. In the forests and openings they are all carefully protected by leaves, grass and low shrubbery of various descriptions, and when civilization comes among them, we find some of the hardiest varieties of our native trees actually perishing from the severety of our winters.

We fail to secure those conditions to the orchard which Nature has given to the forest, hence they are winter-killed, or very much injured.

This fact was not learned by Eastern fruit-growers, because during the severity of the winters there, an even temperature is preserved in the earth by a deep covering of snow. It was our misfortune in the West to learn this lesson first, and when we profit by the lesson we will compete with any State in the Union in raising apples.

It is well ascertained tha[illegible]e a tree of almost any description and [illegible]n the cold when the mercury in [illegible]low zero, that the roots will b[illegible]y killed as though they had bee[illegible]iling water. And by examining trees that have been injured by the winter, it will be found that the mean depth to which they have suffered will be about four inches; this being about the depth to which the earth is subjected to the greatest changes of temperature. The bark of the tree will be black or brown to the above stated depth, according to the amount of injury it has sustained. Below this depth the roots will be found sound and healthy.

In this condition, with the crown of the tree killed or injured, the flow of sap is more or less obstructed from the lower roots to the branches, hence originates the disposition to sprout from the roots. Here lies the cause of all the difficulties in fruit growing in the West. A. and B.'s recommendations in regard to winding them with straw to prevent sun scald on the south side, and scrubbing, scraping and washing to keep out the wood worm, is of about as much importance towards the removal of the primary cause of the difficulty as the perpetual application of quack medicines are to poor Humanity. The worm does not seek shelter in a healthy tree. But they very soon make their way to the feast when the poor tree is suffering from disease. Take it for granted, reader, that if your tree had not suffered previously from cold toes, the wood worm would have passed it by unnoticed. Go into the forests and learn this truth. You will seek in a healthy tree in vain for the worm that is devouring its dead or diseased companions. This worm seems to prey upon all or nearly all diseased trees here. I have never supposed them to be what is called the borer, which I think I have never seen in this country.

Now for the remedy for all these difficulties, which after all is so simple that no one is excusable who does not apply it: Take as much straw as you can carry in your arms, place it about the crown of the tree, put a shovelful or two of earth next to the tree to guard against mice, or a wheelbarrow load of any kind of litter, spread it about the tree. This furnishes all that Nature requires to guard it against the vicissitudes of our climate.

Yours sincerely, JOHN WILLCOX.

OMRO, Dec. 12, 1861.

THE SAPSUCKER.—You will find the following a safe and sure remedy against the sapsucker, which proves very destructive to some varieties: Take a piece of white rag, (or perhaps any other colored rag,) tie it loosely to a limb of the tree, a little above the stem, so that the wind may sway it, (the rag,) and the sapsucker will not trouble the trees. WM. POWELL.

RIDGEWAY, Nov. 26, 1861.

MECHANICAL & COMMERCIAL.

The Lumber Trade.

The lumber trade of this country, according to the Boston *Commercial Bulletin*, was for years confined to New England, and particularly the present State of Maine. Within the past ten years, the trade has greatly changed its direction, and within the past five years almost wholly. A well-written essay upon the causes and effects of this would be an interesting historical record. The home trade in lumber has pressed to the extremes—from the Penobscot to the Great Lakes. In 1851, a member of a firm in the lumber business, at Boston, conceived the idea of working Western and Canada lumber for the Boston market, a long experience having satisfied him that the forests of Maine would, in a short time, become essentially deficient in the supply of some of the most desirable qualities of lumber for building and shipping. To show what has been the result of this enterprise, we can state that the sales made by this firm, in the first year afterwards, (1852), were not over three hundred and fifty thousand feet. Now they sell about *twenty-five millions* annually. The business has already outgrown the proportions of one concern, and there are others here who are engaged in the business, as agents of Western and Canada houses.

This lumber now takes the precedence for shipping over all other kinds; its widths, its lengths and its adaptness to carriage, all excel the Eastern lumber. It is taken mostly from the forests of Michigan, Upper Canada, and Western New York, and is conveyed to the seaboard by way of the canals and the St. Lawrence, and by railroad, via Ogdensburg and Burlington. The better qualities are sent in large quantities to the west coast of South America, California and Australia.

The traffic in Eastern lumber has decreased proportionately; where our old firms ten years since used to average a cargo per day from the Penobscot and Kennebec, they scarcely average a cargo per week.

It has been supposed by many that we were dependent on the South for hard pine, or rather that we could not find a substitute for hard pine. It is scarcely twenty years since the first lot of common river sawed boards arrived in this city from Mobile, consigned to E. D. Peters & Co. The trade has grown since then. In 1845 the ship builders of Boston sent out men all through the South to cut hard pine and oak for ship building, and from this, and also from the fact that hard pine boards were generally accepted as the best for certain purposes, we have come to believe that we could not do without the southern lumber. This is a mistake.

LAKE SUPERIOR IRON.—In 1855 the shipments of iron from Lake Superior were 1,447 tons. The amount gradually increased until 1860, when 150,000 tons were shipped. This year the shipments will not exceed 40,000 tons. The total value of all the ore shipped, and that melted, since the mines were worked, is about $1,326,000 at Marquette. The capital invested in the mines amounts to $2,286,000. The Lake Superior *News*, of November 2d, from which we gather the foregoing facts, says:

Of the companies now doing business here, we know of none but what, with judicious management, can realize a handsome profit upon whatever branch they are engaged in. This year, however, is a peculiarly hard one upon all doing business in the Upper Peninsula. The general stagnation caused by the war has affected us severely, and now, with a six months' winter before us, during which time there is no possibility of getting our products to market, the chance is, that all the manufacturing companies will be straitened for available means. Yet, as there is plenty of provisions in the country, if all will "bear and forbear," they can weather the point; and from all inditions, we have no doubt that the next year will be one of general prosperity for Lake Superior.

THE NEW FIELD TELEGRAPH. — Engineer Rodgers, of New York, has put in operation his newly invented cordage or insulated line, for field operations, and it proved eminently successful, giving entire satisfaction in the manner in which it operated. It is run off reels upon the ground with great rapidity, (as required for instant use), across streams, through woods, or over any localities. Lines were yesterday, in extraordinary short time, thus laid between the head quarters of General McDowell and two or three of his most advanced camps, and were worked in immediate connection with the telegraph station in the War Department. It is worthy of note that the heaviest artillery may run over this Rodgers' cordage without damaging its effectiveness in the least. It differs in many respects from the field telegraph used by Louis Napoleon in the Italian war, and embraces many advantages of convenient and certain operation, under any possible circumstances over that (Louis Napoleon's) which contributed so signally to the success of the French arms.—*Washington Star.*

Shoddy.

Woollen fabrics furnished for soldiers' wear, have been the means of giving the defenders of the country an idea of the thing represented by shoddy. In many instances, a whole corps have found their coats on their backs dropping to pieces after a few day's wear, showing their worthlessness for ordinary use of the garments allowed to be imposed upon them by the carelessness or fraud of inspectors. These frail textures owe their rottenness to the liberal mixture in the fabric of an article called "shoddy," which is a discovery of a recent period, and may be ranked, we suppose, among the "latest modern improvements."

The raw material for shoddy is old rags.—Woollen rags that were once consigned to the manure heap furnish this material. When the new demand for them first arose, the price was about $5 per ton; since then it has advanced. They are collected and assorted, and then baled for manufacture into carpets, shawls, linsey and black cloths. Selected rags, thus baled, when of the best description, are worth over $100 per ton. The assorters sell to the shoddy manufacturer. This agent, in the process of making old garments into new, takes these rags and passes them through a 'rag machine,' which is a cylinder, armed with teeth, that, revolving at high speed, pulls them to pieces, reducing them to wool, and freeing them from dust. It is now shoddy, and in this state it is saturated with oil or milk, and frequently scoured in heaters, in combination with some chemicals. The process completed, the shoddy is ready for manufacture into cloth. For this purpose it is mixed with new wool in as large proportions as possible. White is used in light colored goods and blankets, and the dark descriptions for coarse cloths, carpets, &c. The "shoddy" is the product of soft woollens, but the hard or black cloths, when treated in a similar manner, produce "mungo," which is used extensively in superfine cloths, which have a finish that may deceive a good judge. It is used largely in felted fabrics.

The shoddy parts of a garment made of the mixed material give way very soon, rubbing out of the cloth. It accumulates between it and the lining. Formerly it was largely imported from England. After a while, the demand for it here was found to be so good, that machines were sent over for its manufacture here. In New York there are six shoddy mills.

As we have intimated, the impositions of contractors in palming shoddy uniforms on the volunteers, left the soldiers, after a few days' trial of the rotten fabrics, almost naked. It is probable that the shoddy fraud was carried to a more outrageous excess in these instances than in ordinary dealings. But it is believed that a large proportion of the clothes sent to market in ordinary times is, so to speak, adulterated by this base-born material, and that fortunes are made and pockets picked through its instrumentality to an extent of which the cheated community of shoddy cloth wearers have no idea.—*Merchant's Magazine.*

Japanese Paper.

We may take some instructions from the Japanese, who do not use rags for making paper, but the inner bark of trees. From a recent account in *Blackwood's Magazine*, it appears that this peculiar people are far in advance of the rest of the world in some specialities of paper making. The writer of the article which we refer to, in describing the peculiarities of the Japanese, says:

"It is wonderful to see the thousand useful as well as ornamental purposes for which paper is applied in the hands of these industrious and tasteful people, Ouf papier mache manufacturers should go to Yedo to learn what can be done with paper. We saw it made into a material closely resembling Russian and Morocco leather; it was very difficult to detect the difference. With the aid of lacker, varnish an skillful painting, paper makes excellent trunks, saddles, telescope cases, the frames of microscopes; and we even saw and used excellent water proof coats made of paper, which did keep out the rain, and were as supple as the best Mackintosh, (India rubber). The Japanese use neither silk nor cotton handkerchiefs, towels or dusters; paper in their hands serves as an excellent substitute. It is soft, thin, and of a pale yellow color, plentiful and cheap. The inner walls of many a Japanese apartment are formed of paper, being nothing more than painted screens. Their windows are covered with a fine translucent description of the same material. We saw what seemed to be balls of twine, which were nothing but long shreds of tough paper rolled up. If a shopkeeper had a parcel to tie up, he would take a strip of paper, roll it up quickly between his hands and use it for twine. In short, without paper, all Japan would come to a dead lock. * * Japanese mothers-in-law invariably stipulate in the marriage settlement that the bride is to have a certain quantity of paper allowed her."

New Telegraph Lines.—The telegraph cable between London and the Ajaccio, on the Island of Corsica, has been successfully laid over a length of 205 miles, and an average of 1,500 fathoms in depth.

The wires of the new telegraph line from Boston to Washington, are laid already to Providence. The line is constructed by the Independent Telegraph Company, consists of three wires, and is what is called a metallic circuit. The wires may be fastened to trees or any convenient object, or pass through water without impairing their efficiency, and they cannot be tapped to take away what is passing.

Flocks, Shoddy and Noils.

As there is a great discussion about the composition of woollen fabrics for the army, and as the terms commonly used are not familiar to the generality of people, and as many are apt to be misled through ignorance, we have thought it of sufficient interest to obtain all the facts connected therewith, and we have been kindly furnished with samples of the different materials known as "flocks, shoddy and noils," by a practical manufacturer of this city, with explanations accompanying:

SAMPLES.

No. 1.—*Noils.*—That is, short wool combed from long wool to fit the latter for worsted, for kerseys and blankets.

No. 2.—Washed and unwashed Russian and South American wool; the first for blankets, the second for kerseys.

No. 3.—*Shoddy.*—Blue for kerseys and stocking yarn; black for satinets and mixed goods.

No. 4.—*Flocks.*—For satinets and cotton warp goods and kerseys.

No. 5.—*Noils.*—Suited for kerseys and blankets, of finer class than No. 1.

No. 6.—*Shoddy.*—Made of old carpets—such as is used in English blankets—and, perhaps, some American. Price, 10 cents a pound; English blankets, 40 cents. This is mixed with long wool and spun into filling.

LARGE EXPORTS TO EUROPE.—The month of November has shown a marked change in the business features of New York. A continued activity has prevailed in the export trade to foreign countries, showing, as general results, exclusive of specie:

	October, 1861.		Ten Months, 1861.
Exports	$13,157,000	.....	$109,934,000
Imports	10,201,000	.....	141,754,000

The grain movement will form one of th extraordinay features of the year 1861, and contributes largely to the strength of the country in sustaining an expensive war. The aggregate receipts to 14th November, at tide water, were as follows:

	Flour, bbls.	Wheat, bush.	Corn, bus.	Barley, bus.
1860	1,051,900	15,771,600	13,400,300	2,393,000
1861	1,221,200	25,064,700	20,559,600	1,703,900

By reducing the wheat to flour, the quantity of the latter left at tide water this year, compared with the same period last year, shows a gain equal to 1,625,000 barrels of flour. The receipts at tide water, since the opening of the canals, for three years, to the 14th November, have been as follows:

Canals open,	1859. April 15.	1860. April 25.	1861. May 1.
Flour, bbls	600,600	1,051,900	1,221,200
Wheat, bus	3,523,200	15,771,600	25,064,700
Corn, bus	2,488,700	13,400,300	20,559,600
Barley, bus	1,900,200	2,393,000	1,703,900
Rye, bus	320,000	304,500	725,000
Oats, bus	4,697,500	5,943,600	4,806,200

—*Hunt's Merchant's Magazine.*

SCIENCE, ART, STATISTICS.

About Diamonds.

The Paris correspondent of the N. O. *Picayune*, writes to that journal on the above theme, from which we take the following almost incredible story of the treasures, pleasures, and measures of the Duke of Brunswick, the "most profound adamantologist in the world:"

He has in his possession three millions of dollars worth of diamonds. He has just published a catalogue of his diamonds, and in the appendix there is a notice of the most celebrated diamonds in the world. This catalogue numbers not less than 268 quarto pages. It gives, with great detail, a list of his white transparent, first-white, second-white, steel-white, blue-white, light blue, black-blue, light-yellow, bright-yellow, amber-yellow, straw, champagne, deep-rose, rosy, light-rose, opalescent, pome-granate, violet, greenish, green, sea-green, brown, light-brown, deep-brown, dusk-black, opaque-black, London, fog, sandy, frosty, black-spotted, cracked, split, scratched, ill-cut, uncut, square, round, oval, oblong, octagon, pointed, pigeon-eyed, almond, Chinese-eyed, diamonds. It relates how this once adorned a Turkish sabre, that a royal diadem, another an imperial collar, a third a grand electoral hat; this black diamond was an idol's eye, that brilliant rosy diamond was taken from the Emperor Baber, at Agia, in 1527, it weighs 41 carats, and is worth $69,000; those were the waistcoat buttons of the Emperor Don Pedro; this diamond ring, with the Stuart coat of arms and the cypher "M. S," belonged to Mary, Queen of Scots; that pair of earrings hung once on Marie Antoinette. The Duke of Brunswick has in his possession fifteen of the ninety known diamonds, weighing thirty-six carats, but he has not a diamond worth $200,000. He has plenty of diamonds worth $20,000, $30,000, and $45,000 apiece: he has two worth $60,000 each, one worth $70,000, and one worth $80,000; but he has'nt one worth $200,000. He is in treaty now for two diamonds, one of which is worth $232,000, and the other $650,000, and which rank in the order of precedence established by adamantologists, in the sixth rank, which is next after the Regent's diamond, and former in the eighth rank, that is, next after the Orloff diamond of Russia. In his list of celebrated diamonds he places in the front a brilliant white diamond weighing 250 carats and belonging to some East Indian prince, and worth $2,500,000; next comes the Kohinoor, which weighs 186 carats, and which he sets down as worth $1,-883,840; next comes the Rajah of Matar's (Borneo) diamond, it is of the most beautiful water conceivable; the governor of Batavia offered the Rajah $150,000, two brigs of war, armed, equipped, and provisioned for six months, and a large quantity of cannon balls,

powder, and congreve rockets: the Rajah refused them all, and preferred keeping his diamond, which passes for a talisman; it is worth $1,339,455. Next comes the great Mogul, which is of a beautiful rose color, and of the shape and size of an hen's egg, it is worth $784,000, according to the Duke of Brunswick's valuation, though Tavernier, the traveler, sets it down as being worth $5,344,655; the Regent's diamond of France (and which, by the way, belong to Lord Chatham's grand father, who brought it from India, concealed in the heel of his shoe,) comes only in the fifth rank; it weighs 135½ carats—it is worth $739,840; it is the purest diamond known, it required two years to cut it: before it was cut it weighed 410 carats; the chippings of it were sold for $40,000. The Duke of Brunswick says the Orloff diamond of Russia is worth only $344,-350, and not $18,516,580, as some persons have pretended; and he says the Nancy diamond, which Prince Paul Demidoff purchased at the price of $400,000, is worth only $29,-160; but then the Duke of Brunswick reckons its historical value as nothing, although it once adorned the sword of Charles the Bold, was found after his death on the battle field of Nancy, was sold in Switzerland, carried to Portugal and there sold, belonged to King Antonio, to Henry III, was swallowed by a noble to whom he confided it—swallowed by a faithful noble rather than deliver it to robbers, and was found in his body, which was disinterred for the purpose of discovering it. The Duke of Brunswick dares not leave Paris at any period of the year; his diamonds keep him chained there. He dares not sleep from home (some people reckon this liberty of pillow one of the great franchises of Paris,) a single night. Then, he lives in a house not constructed so much for comfort as security. It is burglar proof, surrounded on every side by a high wall, the wall itself is surmounted by a lofty iron railing, defended by innumerable sharp spear heads, which are so contrived, that if a person touches any one of them, a chime of bells begins instantly to ring an alarm. This iron railing cost $14,127. He keeps his diamonds in a safe built in a thick wall; his bed is placed against it, that no burglar may break into it without killing, or at least waking him, and that he may amuse himself with them without leaving his bed. The safe is lined with granite and iron; the locks have a secret spring which must be known before they can be opened; if they are opened by violence, a discharge of fire-arms takes place which will inevitably kill the burglar, and at the same time a chime of bells in every room in his house are set ringing. He has but one in his bedroom: the sash are of the strongest iron, the shutters are of thick steel iron. The door opening into it is of solid sheet iron, and cannot be entered unless one be master of the secret combination of the lock. A case of a dozen six barreled revolvers, loaded and capped, lies open upon a table within reach of his bed. Would you like to be in his place?

Trades and Employments in France.

An interesting document has lately been published in Paris, giving the number of the individuals in France at the date of the last census (1856) who were engaged directly or indirectly in various professions and trades, from which they derived their support. The returns include not only adults, but also children, and are thus classed:

Agriculture	19,034,071	Clergy of all persuasions.	142,705
Manufactures	10,690,961	Persons without any trade or profession	3,241,457
Commerce	1,652,331		
Professions	1,462,144		

A comparison between the population returns of 1861 and 1856, shows a sensible diminution in the number of persons engaged in agricultural labor, and an increase in the class following manufacturing pursuits. Here are the figures:

	1851	1856
Agriculture	21,992,874	19,034,071
Manufactures,	9,233,895	12,202,891
Professions	3,483,538	3,262,282
Without profes'n or trade	1,022,063	1,480,925
	35,732,370	36,009,669

During the preceding year (1854) the receipts from the octroi in Paris were fifty-four millions of francs, being an increase of twenty-one millions of francs in ten years; and the total receipts of the metropolis, in the same year, amounted to 110,306,124 francs, while the expenditures, during the same period, was 97,720,554.

☞ A curious discovery was made the other day at the National Observatory at Washington, from which Lieut. Maury seceded. On attempting to use some of the instruments for observation, it was found that a large tree had grown up in front of them so as to completely obstruct the view—thus giving conclusive evidence that the instruments have not been used for years! A striking commentary on the manner in which the seceding superintendent discharged his duties. Workmen are now cutting away the mute but unimpeachable witness against him.

☞ That gigantic plant, the Victoria Regia or Royal Lily, is producing a succession of its gorgeous blossoms in the aquarium of Kew Gardens, England. The leaves of the lily are three feet in diameter.

☞ Among the curious weapons of war captured in India, which have been brought to the tower of London, is an ax more than one hundred pounds in weight, used by the king of Oude's executioner.

Severe Winters.

The *Nord* gives the following details on the subject of rigorous Winters: In 1709 the cold was excessive throughout the whole of Europe; the Adriatic was completely frozen over; a general and destructive famine prevailed; food of the first necessity was at exorbitant prices; at Paris bread made of oaten flour was served at the tables of the rich and of princes. Cattle perished from cold and hunger. The crops in the year following was very abundant. In 1784 the thermometer at St. Petersburg fell to 30° below zero centigrade (22° below zero Fahrenheit). On the 30th of December the glass fell to 18¾° below zero Reaumur (9° below zero Fahrenheit), and the ice at Brussels was 12½ inches thick. In 1794 the cold was excessive, and the army of General Pichegru invaded Holland by crossing the Wahal on the ice. In 1812, a Winter rendered memorable from the disasters of the French army in Russia, the thermometer on the 26th of November marked 18° below zero Reaumur (8° 50′ below zero Fahrenheit). In 1820 the cold in Europe was very rigorous. On the 10th of January the thermometer at Berlin fell to 20° below zero C. (4° below zero F.), and at Brussels to 12° below zero C. (9° 50′ below zero F.) It was in this year that the Palace of the Prince of Orange was destroyed by fire. On the 25th of January, 1823, the thermometer at Brussels fell to 17¼° below zero Reaumur (6° 25′ below zero F). In 1845 the Winter was long and severe. The thermometer at Berlin fell to 19° below zero C. (2° 50′ below zero F.); Strasburg, 14° C. (6° above zero F.); Paris, 12° C. (9° 50′ F.); and at Brussels it stood at 12° below zero Reaumur (5° below zero F).

Statistics of France.—In the French empire, the annual number of male births is a sixth greater than the births of females; but the annual deaths of males surpass slightly the deaths of the opposite sex, there being 65 deaths of females to 66 of males. From 1817 to 1853, the population increased steadily every year; but in 1854 and 1855 it diminished considerably. The average annual increase, from 1817 to 1857, was 159,018 inhabitants; or the 310th part of the average population, calculated at 33,410,000, up to 1857. If the same ratio should continue in the future, the population will increase one-tenth in twenty years, two-tenths in thirty-eight years, three-tenths in fifty-five years, and will not double itself before the lapse of 146 years. There is one birth to 34,066 inhabitants, and 0.84 deaths—that is to say, 100 births to 84 deaths. There is one death ond 1.20 births to 41,050 inhabitants, or 100 deaths to 120 births.

☞ An application has been made to the Commissioners for the London Exhibition of 1862 for permission to exhibit "specimens illustrative of the seven ages in the life of a bug."

The Effect of the Frost on Iron.

A practical man writes to the *London Times* on this subject, advancing very conclusive arguments against the idea that tyres of railway wheels which have broken lately, have done so in consequence of the strain arising from contraction. "The greatest variation of temperature in the atmosphere of this country, say between that of a hot summer's day to that of a cold winter's day, will not affect the length of malleable iron more than about one inch in 100 feet. This in a tyre nine feet long would be less than one-tenth of an inch; and, as the strain requisite to stretch malleable iron one-tenth of an inch in 9 feet does not exceed five tons to the square inch, it follows that the force exerted by contraction alone is also under five tons per square inch. But the breaking strain of ordidary malleable iron is known to be over fifteen tons per square inch, and that of good tyre and axle iron over 25 tons; contraction alone is, therefore, not the cause of fractured tyres in frosty weather. It is a known fact that tyre iron of the very best quality has failed recently; also that a bar of good iron which, in an atmosphere of ordinary temperature, would bend up like leather, has broken off short with the single blow of a hammer on a frosty night. I, therefore, conclude that frost exercises a subtle influence on the quality of iron, reducing its tensile strength, and that the recent breakages were the result of this loss of cohesive power, and not from excessive contraction."

New Use for Apples.—It appears from the following statement, which we find in several of the English journals, that the people of that country are threatened with a cider famine, not from the failure of the apples, although a partial crop, but because they are likely to be applied to a more profitable purpose (so far as the growers are cyncerned,) than in making a household beverage. "It seems that the Manchester calico dyers and printers have discovered apple juices supply a desideratum long wanted in making fast colors for their printed cottons, and numbers of them have been into Devonshire and the lower parts of Somersetshire, buying up all the apples they can get, and giving such a price for them as in the dearest years hitherto known has not been offered. We know one farmer in Devonshire who has a large orchard, for the produce of which he never before received more than £250, and yet he has sold it this year to a Manchester man for £360. There can be no doubt that the discovery will create quite a revolution in the apple trade; and we may add that it will give an impetus to the cultivation of this hardy fruit."

☞ The anticipated cost of the railroads already in progress in India, is $250,000,000. The English Government guarantees 5 per cent. dividends.

The Origin of Coal Oil.

At a meeting of the Manchester Geological Society, Mr. E. W. Binney, F. R. S., F. G. S., read a paper on "Dorin Holland Moss," in which he discussed at length the origin of coal oil. * * After considering and rejecting other explanations of the origin of the coal oil, Mr. Binney says: "These circumstances led to the conclusion that it is produced by the decomposition of the upper bed of peat, where it is overlaid by the sand."

Mr. Dickinson, F. G. S., said that it was not at all uncommon to observe mineral pitch or petroleum oozing from a stratum of coal in our pits, distillation having taken place in the bed where external heat could have no influence.

Mr. Binney stated that "Petroleum or rock oil is found in various parts of the world—in the Burman empire, on the banks of the Irawaddi, are powerful springs of it; it is abundant in Persia; it occurs in Barbadoes; at Tegernsee, in Bavaria; in Auvergne, near Claremont; in Switzerland, near Neufchatel; at Amiano, in Italy; and in Sicily; and near the volcanic isles of Cape de Verde the sea is sometimes covered with it."

It will be remembered that Dr. Stevens' explanation of the origin of the coal oils was, that the coal or other carbonaceous deposit is decomposed by the operation of natural forces, producing results similar to those which occur when coal is distilled in a retort for the artificial manufacture of oil. Some difference of opinion was expressed by the members of the Manchester Society, in regard to the necessity of external heat to effect the decomposition of coal. Some geologists believe that the decomposition takes place spontaneously from the natural disposition of the elements of organic compounds to fall asunder.—*Scientific American.*

Northern and Southern Troops.

Comparing the northern soldier with the southern, we believe the former will stand the effects of the climate for a short campaign of a year or more better than the latter, and though the popular belief is different to this view, the statistics of our war with Mexico fully sustain it, and the published opinion of no less an authority than Dr. Nott. of Mobile, in the *Southern Journal of Medicine and Pharmacy*, for January, 1847, confirms it.

On April 8th, 1848, the Secretary of War made a report to the U. S. Senate, of the losses of the volunteer forces employed in Mexico. From this it appears that seven northern states —Massachusetts, New York, New Jersey, Pennsylvania, Ohio, Indiana and Illinois—furnished, in the course of that war, 22,573 men.—Of this force, the total loss from disease was 2,931—less than one eighth of the whole. Nine slave states—Virginia, North Carolina, South Carolina, Georgia, Alabama, Louisiana, Mississippi, Tennessee and Kentucky—furnished 22,899 men. The loss from this force by disease, and death caused by disease, was 4,815, or more than one-fifth—a very considerable difference in favor of northern troops.

THE BRITISH NATIONAL DEBT.—On March 31, it was as follows:

2½ per cents,.....	£2,961,068	3¾ per cents,.....	£2,630,769
2¾ per cents,.....	418,300	3½ per cents,.....	240,746
4 per cents,.....	779,258,542	5 per cents,.....	423,603

—making a total of £785,961,998, on which the annual interest payable amounts to £23,579,340.

In the course of the last financial year the debt had been reduced £838,158, chiefly by stock being transferred for the purpose of annuities (but there was £48,855 stock transferred for redemption of land tax.)

The terminable annuities in existence (for lives or terms of years) are stated to amount to £1,346,944, but there are also the naval and military pension annuity of £585,740 purchased by the Bank of England in 1823, and expiring in 1867; the annuity of £116,000 created by the £16,000,000 loan of 1855 (Crimean war) expiring in 1865, and the Tontine annuities created in the reign of George III, £46,256.

INFLUENCE OF EXTREME COLD UPON SEEDS.—Some experiments have been made this year by Prof. Elie Wartmann, of Geneva, Switzerland, on the influence of extreme cold upon the seeds of plants. Nine varieties of seeds, some of them tropical, were selected. They were placed in hermetically sealed tubes, and submitted to a cold as severe as science can produce. Some remained fifteen days in a mixture of snow and salt; some were plunged in a bath of liquid sulphuric acid, rendered extremely cold by artificial means. On the 5th of April they were all sown in pots placed in the open air. They all germinated, and those which had undergone the rigors of frigidity, produced plants as robust as those which had not been submitted to this test.

☞ There is a factory near Breslau, Silesia, for converting fine leaves into a kind of cotton or wool. Blankets, jackets, stockings, and other articles of dress, are manufactured from this wool, and sold extensively in Vienna.

☞ A man that hath no virtue in himself, ever envieth virtue in others, for men's minds will either feed upon their own good or upon others' evil; and who wanteth the one will prey upon the other,

☞ Knowedge cannot be acquired without pains and application. It is troublesome, and like deep digging for pure water; but when once you come to the springs, they rise up and meet you.

THE HOME.

Love of Country and of Home.

There is a land, of every land the pride,
Beloved by heaven o'er all the world beside,
Where brighter suns dispense serener light,
And milder moons emparadise the night—
A land of beauty, virtue, valor, truth,
Time-tutored age, and love-exalted youth.
The wandering mariner, whose eye explores
The wealthiest isles, the most enchanting shores,
Views not a realm so beautiful and fair,
Nor breathes the spirit of a purer air;
In every clime, the magnet of his soul,
Touched by remembrance, trembles to that pole;
For, in this land of heaven's peculiar grace,
The heritage of nature's noblest race,
There is a spot of earth supremely blest,
A dearer, sweeter spot than all the rest,
Where man, creation's tyrant, casts aside
His sword and sceptre, pageantry and pride,
While in his softened looks benignly blend
The sire, the son, the husband, brother, friend.
Here woman reigns; the mother, daughter, wife,
Strews with fresh flowers the narrow way of life;
In the clear heaven of her delightful eye,
An angel guard of loves and graces lie;
Around her knees domestic duties meet,
And fire-side pleasures gambol at her feet.
"Where shall that land, that spot of earth be found?"
Art thou a man, a patriot? look around;
Oh! thou shalt find, howe'er thy footsteps roam,
That land thy country, and that spot thy home.

[MONTGOMERY.

Hearthstone Conversations.

To-day, this individual one, cold, wet, tempestuous, is, perhaps, as unpleasant as any of those that lie in the unrevealed calendar of the winter now sternly before us. And how many eyes are looking out upon it, and with what varied emotions are the contemplations of those who look stirred? To some it may appear but a type of the condition of things in our country, so late in the summer of its prosperity, now swept with the blasts of faction and confusion. To others, moody and foreboding by nature, the day, with its sullen sky, fierce breath and shiverings is but a reflex of what, to them, has been the most of life. How few, comparatively, seem to have any true idea of the uses and blessing of such days. So rare are they that we would go a long distance to see the face of a mother, who, in view of the uncomfortableness of every thing without, says to herself, "Now husband and children can find no pretext of business or pleasure to be out of doors; so we shall have a delightful day, all to ourselves in the house." We are thinking now of those who live in farm-houses, where the weather, more than in any other, compels the occasional ingathering of the whole family circle. Such a wife and mother, one who having the thought has also the tact to bring out to useful ends and in agreeable variety the knowledge, wit, humor and sportiveness of the entire group of those who claim her daily care and love, is verily a jewel without price.

Conversations by the hearth-stone where were celebrated the marriage loves of those whose blended lives have long been as one heart-beat; where children have grown to be an honor and wealth of which the early time scarce dreamed, how can they be but as "apples of gold in pictures of silver," chaste, beautiful, elevating. And how much more so ought this to be the case on those days when the circumstances of the external world houses them in closer union of thought, feeling and occupation? There is something in the aspect of such a day as this that should bring the members of a family into more sacred relations to each other. The thoughts, turned from things without, have a tendency to dwell upon the interior life, and opportunity to discover the less obvious, but often most valuable phases of character and gifts of those who, too frequently walk, unknown, in the same daily paths with ourselves. Then there is the reflection that few who ever think at all can always escape, that the day comes, and the storm, which will seperate, for all the hereafter of this beautiful or this bleak world those now so closely knit in household loves.

Mother, wife, sister, make one more resolve, and, with faith that it can be done, try to make the uncomfortableness of the days of the season whose joys must be mostly within doors, if had at all, your opportunity for such conversation as shall instruct and amuse the young, cheer the aged, and invigorate and beautify the characters of all those whom God, in his providence has gathered around the same hearth-stone.

☞ There is nothing in what has befallen or befalls you, my friends, which justifies impatience or peevishness. God is inscrutable, but not wrong. Remember, if the cloud is over you, that there is a bright light always on the other side; that the time is coming, either in

this world or the next, when that cloud will be swept away, and the fulness of God's light and wisdom poured around you. Everything which has befallen you, whatever sorrow your heart bleeds with, whatever pain you suffer, nothing is wanting but to see the light that actually exists, waiting to be revealed, and you will be satisfied. If your life is dark, then walk by faith, and God is pledged to keep you as safe as if you could understand everything. He that dwelleth in the secret place of the Most High shall abide under the shadow of the Almighty.

The Suitors.

BY GEORGE P. MORRIS.

Wealth sought the bower of Beauty,
  Dressed like a modern beau:
Just then Love, Health and Duty
  Took up their caps to go.
Wealth such a cordial welcome met,
  As made the others grieve;
So Duty shunned the gay coquette,
  Love, pouting, took French leave—
    He did!
  Love, pouting, took French leave!

Old Time, the friend of Duty,
  Next called to see the fair;
He laid his hand on Beauty,
  And left her in despair.
Wealth vanished!—Last went rosy Health—
  And she was doomed to prove
That those who Duty slight for Wealth,
  Can never hope for Love!
    Ah, no!
  Can never hope for Love! [*Home Journal.*

Cold Uninviting Rooms.

The following from one of Beecher's recent sermons, contains a good hint:

"When you go into some men's houses you find the halls gloomy and forbidding. The old pyramids of Egypt are not so dark and bleak as the entrances to some dwellings. It seems to me as though the door ought to be the most attractive place in a house, so that on approaching it one should feel assured that there was hospitality within. And the hall should be cozy and warm. I hate narrow halls, I hate a hall with bare walls, that seem to say, 'Starve! starve! starve!' But the halls of many a house are cold and barren and uninviting.—And some people keep their parlor everlastingly in order, as if it were arranged for a funeral; and nobody goes into it without feeling as if he was at a funeral, except that the minister and the services are wanting. The carpet says, 'Do not touch me;' and every chair and sofa says, 'It is an impertinence to sit on me;' and every piece of furniture says, 'Let me alone;' and the whole room says, 'What are you doing here?' A man leads you through an inhospitable door and a disagreeable hall into a stiff parlor; and you say, 'If the people that live here are like these things, I do not want to have anything to do with them.'"

The Useful and Beautiful.

The tomb of Moses is unknown; but the traveler slakes his thirst at the well of Jacob. The gorgeous palace of the wealthiest and wisest of monarchs, with the silver and gold, and ivory, and even the greatest temple of Jerusalem, hallowed by the visible glory of the deity himself, are gone; but Solomon's reservoirs are as perfect as ever. One of the ancient architectuary of the Holy city, not one stone is left upon another; but the pool of Bethsada commands the pilgrim's reverence at the present day. The colums of Persepolis are mouldering into dust; but its cisterns and acqueducts remain to challenge our admiration. The golden house of Nero is a mass of ruins; but Aquis Claudia still pours into Rome its liquid stream. The temple of the sun at Tadmor in the wilderness, has fallen; but its fountains sparkle as freshly in his rays, as when thousands of worshippers thronged its lofty colonnades. It may be that London will share the same fate of Babylon, and nothing be left to mark its site, save mounds of crumbling brick work. The Thames will continue to flow as it does now. And if any work of art should still rise over the deep ocean of time, we may well believe that it will be neither a palace nor a temple, but some vast acqueduct or reservoir; and if any name shall flash through the midst of antiquity, it will probably be that of the man who in his day sought the happiness of his fellow-men rather than their glory, and linked his name to some great work of national utility and benevolence. This is the true glory which outlives all others, and shines with undying lustre from generation to generation; imparting to works some of its immortality, and in some rescuing them from the ruin which overtakes the ordinary monuments of historical tradition, or mere magnificence.—*Edinburg Review.*

SENSIBLE.—Jane Eyre says:—"I know that if women wish to escape the stigma of husband-seeking, they must act and look like marble or clay, cold, expressionless, bloodless; for every appearance of feeling, of joy, sorrow, friendliness, antipathy, admiration, disgust, are alike construed by the world into an attempt to hook a husband. Never mind! well meaning women have their own consciences to comfort them after all. Do not, therefore, be too much afraid of showing yourself as you are, affectionate and good-hearted; do not too harshly repress sentiments and feelings excellent in themselves, because you fear that some puppy may fancy that you are letting them come out to fascinate him; do not condemn yourself to live only by halves, because if you showed too much animation, some pragmatical thing in breeches might take it into his pate to imagine that you designed to devote your life to his inanity."

Life Constantly Narrowing.

If the votaries of pleasure, on whom time hangs heavily, and who are devising expedients to relieve its tedium, could only comprehend the importance of life, and the vast issues involved in it, they would be startled effectually from their dreams. There is a depth of meaning in the following paragraph from the National Preacher:

"The narrow limits of the longest life is every day becoming narrower still. The story is told of an Italian State prisoner, who, after some week's confinement, became suddenly aware that his apartment was becoming smaller. He watched, and saw with horror that a moveable iron wall was gradually encroaching on the space, and that as the movement came on, it must crush him to death, and he could calculate it to a day! But you have not that advantage. John Foster' yet more appropriately resembles our time to a sealed reservoir, from which issues daily a certain small quantity of water, and when the reservoir is exhausted, we must perish of thirst; but we have no means of sounding it to ascertain how much it originally contained, or whether there be even enough remaining for to-morrow."

WASHINGTON AND FRANKLIN.—It may be mentioned as a somewhat striking fact, and one, I believe, not hitherto adverted to, that the families of Washington and Franklin—the former the great leader of the American Revolution, the latter not second to any of his patriotic associates—were established in the same central county of Northampton, and within a few miles of each other; the Washingtons, at Brighton and Sulgrave, belonging to the landed gentry of the country, and in the great civil war supporting the royal side; the Franklins, at the village of Eaton, living on the produce of a farm of thirty acres, and the earnings of their trades as blacksmiths, and espousing—some of them at least, and the father and uncle of Benjamin Franklin among the number—the principles of non-conformists. Their respective emigrations, germs of great events in history, took place—that of John Washington, the great grandfather of George, in 1567, to loyal Virginia; that of Josiah Franklin, the father of Benjamin, about the year 1685, to the metropolis of Puritan New England.—*Edward Everett.*

CHILDREN.—Hard be his fate who makes no childhood happy; it is so easy. It does not require wealth, or position, or fame; only a little kindness and the tact which it inspires. Give a child a chance to love, to play, to exercise his imagination and affections, and he will be happy. Give him the conditions of health—simple food, air, exercise, and a little variety in his occupations, and he will be happy, and expand in happiness.

Abou Ben Adhem and the Angel.

Abou Ben Adhem (may his tribe increase)
Awoke one night from a deep dream of peace,
And saw, within the moonlight in his room,
Making it rich and like a lily in bloom,
An angel writing in a book of gold.
Exceeding peace had made Ben Adhem bold,
And to the presence in the room he said,
"What writest thou?" The vision raised its head,
And with a look, made all of sweet accord,
Answered, "The names of those who love the Lord."
"And is mine one?" said Abou. "Nay, not so,"
Replied the angel. Abou spoke more low,
But clearly still, and said, "I pray thee, then,
Write me as one that loves his fellow-men."

The angel wrote and vanished. The next night
It came again with a great wakening light,
And showed the names whom love of God had blessed,
And lo! Ben Adhem's name led all the rest.

[LEIGH HUNT.

THINK.—Thought engenders thought. Place one idea upon paper, another will follow, and still another, until you have written a page. You can not fathom your mind. There is a well of thought there which has no bottom. The more you draw from it, the more clear and fruitful it will be. If you neglect to think yourself, and use other people's thoughts, giving them utterance only, you will never know what you are capable of. At first your ideas may come in lumps—homely and shapeless—but no matter; time and perseverance will arrange and polish them. Learn to think, and you will learn to write; the more you think the better you will be enabled to express your ideas.

LOVE OF THE WONDERFUL.—What stronger pleasure is there with mankind, or what do they earlier learn or longer retain, than *the love of hearing and relating things strange and incredible.* How wonderful a thing is *the love of wondering* and *of raising wonder!* 'T is the delight of children to hear tales they shiver at, and the vice of old men to abound in strange stories of times past. We come into the world wondering at every thing; and when our wonder about common things is over, we seek something new to wonder at. Our last scene is to tell wonders of *our own,* to all who will believe them. And amid all this, 't is well if truth comes off but moderately tainted.

AN OLD MAN.—What I call an old man, is one who has a smooth shining crown and a fringe of scattered white hairs; seen in the streets on sunshiny days, stooping as he walks, bearing a cane, moving cautiously and slowly, telling old stories, smiling at present follies, living in a narrow world of dry habits; one that remains waking when others have dropped asleep, and keeps a little night-lamp flame of life burning year after year, if the lamp is not upset, and there is a careful hand held round it to prevent the puffs of wind from blowing the flame out. That's what I call an old man. —*Holmes.*

An Indian Romance.

Among the Sikh nobles who, at the outset of the mutiny, says the London Spectator, staked their heads on the British side, was the Rajah of Kupoorthulla. He was not a very great man, but he had influence, and no Englishman could have risked his status, purse, and person with more hearty and unquestioning loyalty. He helped to guard the Northern Delhi Road, then the key of our position; and when order had been restored the Governor-General casting aside the old policy of meagre rewards raised him by a single gift of land to the wealth of a great English noble. The Rajah married an East Indian girl, became, under her influence, a Christian, and established a mission on his own estates. Sweeping away at a stroke the prejudices of thousand years, he introduced his wife into society, and allowed her to appear in public, and the officials, for once heartily cordial to a native, threw aside prejudices as rooted as his own, and recommended that the Rajah should receive, officially, precedence in Oude. The Governor-General consented, and at the apex of the new social system of Oude stands a native Christian noble, and the only woman in India for whom the guards turn out in the British provinces is the Christian "Lady of Kupoorthulla."

The Arab to the Palm.

If I were a king, O stately Tree,
A likeness, glorious as might be,
In the court of my palace, I'd build for thee!

With a shaft of silver, varnished bright,
And leaves of verge and malachite;

With spikes of golden bloom a-blaze,
And fruits of topaz and chrysoprase.

And there the poets, in thy praise,
Should night and morning frame new lays—

New measures sing to tunes divine;
But none, O Palm, should equal mine!

[BAYARD TAYLOR.

HEALTH AND DISEASE.

BODILY HEALTH.—Beauty has its foundation in physical well being. Health has its laws, which must be understood and obeyed; and these laws are clearly indicated in our physical and mental constitutions. They demand:

1. Proper food and drink, in such quantities as the system is capable of readily assimilating.
2. Air and sunlight in abnndance.
3. Sufficient exercise, rest and sleep.
4. An agreeable temperature.
5. Perfect cleanliness.

Do you envy the good looks of your neighbor Brown's plump and rosy daughter? Do you think poor Molly possesses some cosmetic that is beyond your reach? By no means.—The whole secret of a full form and rosy cheek lies in pure blood, manufactured from wholesome food, by healthy and active vital organs, oxygeneated and vitalized in well-expanded lungs, and kissed by the life-giving sunlight on the surface of the warm cheek. She who will have the color she covets on any other terms, must buy it of the apothecary, and renew it every time she makes her toilet.—*Journal of Health.*

A HINT TO THE GIRLS.—Our girls will have to take care hereafter to paint their cheeks with nature's "blooms" only; to take heed and not to rinse the windows of the soul with the tincture of belladonna, and to guard against looking interestingly pale. The highest court of England has ruled that want of health in one or two engaged to be married, justifies the other in a breach of his or her promise; and as the ruling of the English courts is often adopted in our own, it is very probable that this will become a prineiple with our judges. So, young ladies, look to your calisthenics, and eschew any little proclivities to slate pencils and other delicacies of a similar character, while in the growing age. Think that every time you paint your cheeks, dwadle too long over a novel, or omit to take your morning walk, your chances of marrying become less.

DOMESTIC ECONOMY.

WASHING CALICOES.—Calico clothes, before they are put in water, should have the grease spots rubbed out, as they cannot be seen when the whole of the garment is wet. They should never be washed in very hot soap suds; that which is middling warm will cleanse them quite as well, and will not extract the colors so much.

Soft-soap should never be used for calicoes, excepting for the various shades of yellow, which look the best washed with soft-soap, and not rinsed in fair water, and dried in the shade.

SETTING THE COLORS.—When calicoes incline to fade, the colors can be set, by washing them in luke-warm water, with beef's gall, in the proportion of a tea-cupful to four of five gallons of water. Rinse them in fair water; no soap is necessary, without the clothes are very dirty. If so, wash them in luke-warm suds, after they have been first rubbed out in beef's gall water.

The beef's gall can be kept several months by squeezing out of the skin in which it is inclosed, adding salt to it, and bottled and corked tight. A little vinegar in rinsing water of red and green calicoes, is good to brighten the colors, and keep them from mixing.

TO PREPARE MUTTON HAMS.—We copy the following receipt from the *London Field:* One-quarter of a pound of saltpetre to half a pound of raw brown sugar; make them very hot and rub into legs of mutton over night. Next morning salt them with common salt. Let the mutton lay about a week, move it over, and rub in

fresh salt, and let it remain another week in pickle. Then hang it up to dry. When dry keep it in canvass bags to prevent being fly-eaten. N. B.—Do not let the mutton *lay* in the wet brine, but place something under to raise them from the wet or dropping that will fall from them.

How to Cure Hams Without Smoke.—Eds. Co. Gent.:—That course in any undertaking which accomplishes our object with the least labor and in the simplest manner, is the one which should recommend itself to our consideration.

After trimming hams pork-house style, and rubbing them well with salt, I sprinkle salt over a floor or platform, and lay them down flesh side up, so as to economize space. To each ham I give a teaspoonful of pulverized salt petre, then pack on salt as long as it will lay. In this condition I leave them until they have taken salt, and before the fly makes its appearance. Then I take them up, knock and rub off with a wet cloth, all adhering salt, expose them to the air to dry, and when dried hang them up in a high, dry, dark and airy loft, to cure without smoke. They will pass in market or meet the palate of the most fastidious epicure. W. K.

Washing Woolens.—If you do not wish to have white woolens shrink when washed, make a good suds of hard soap, and wash the flannels in it, without rubbing any soap on them; rub them out in another suds, then wring them out of it, and put in a clean tub and turn on sufficient boiling water to cover them, and let them remain till the water is cold.

A little indigo, in the boiling water, makes the flannel look nicer. If you wish to have your white flannels shrink so as to have them thick, wash them in soft-soap suds and rinse them in cold water.

Colored Woolens that incline to fade should be washed in beef's gall and warm water before they are put into soap suds.

Specific Gravity of Fresh Eggs.—The following facts have been established by a series of experiments performed by M. J. Labiche, of Louviers. 1. Newly-laid eggs have not all the same sp. gravity (placed in a solution of chloride of sodium, sp. gr. 1,060, some sink, and others swim.) 2. Every egg that falls to the bottom of a solution of chloride of sodium, sp. gr. 1,040, can be used in cooking; those that float in the liquid are not sufficiently fresh for that purpose; those that swim on the surface are spoiled.

Raisin Cake.—One pound sugar, half-pound butter, one and a half pounds flour, four eggs, half-pint thick milk, one teaspoonful of soda, same of cream of tartar, one nutmeg, half-pound raisins, half-pound currants.

Winter Pudding.—Take the crust off a loaf of baker's bread, fill it with plums, and boil it in milk and water.

WIT AND WISDOM.

—If a man could be conscious of all that is said of him in his absence, he would probably become a very modest man.

—He who is a tiger in his own family is generally a sheep in society.

—When you dispute with a fool, he is very certain to be similarly employed.

The Aim of the South.—To keep all the Kernels, and throw us the Shells!

Important to Mariners.—It has long been said that "Britannia rules the waves," but since the fort and arsenal business has flourished so, down South, we must surely agree that South Carolina is First on the Seize!

A Grave Affair.—A Scotch paper tells the story of a dairy farmer, who, after the funeral of his wife, drove a hard bargain with the grave-digger. At last the indignant grave-digger bringing his hand down on a grave-stone, exclaims: "Down wi' anither shillin', or up she comes!"

—"Bob, did you hear my father gets married again next Easter?" "No, Tom, I did not. Does he get an old woman?" "No, sir'ee! He gets a new one."

—An exchange says that dollars and sense are a very rare combination. But if one has dollars, he is a great man without the sense.

—"There is no place like home," said a brainless fop, the other evening, to a pretty young lady. "Do you really think so?" said the young lady. "Oh, yes," was the reply. "Then," said she, "why don't you stay there?"

—One rose upon a bush, though but a little one, and though not yet blown, proves that which bears it to be a true rose-tree.

—False fears bring true vexations; the imaginary grievances of our life are more than the real ones.

—When you go drown yourself, always pull off your clothes, that they may fit your wife's second husband.

—A deaf and dumb person being asked, "What is forgiveness?" took a pencil and wrote a reply, containing a volume of the most exquisite poetry, as well as deep truth, in these few words: "It is the odor which flowers yield when trampled upon!"

Hold your Temper.—A farmer was once in the habit of attending the disputations of two schoolmen. As the disputants always argued in Latin, a friend of the farmer's inquired why he attended. "To see which beats." "But you don't understand Latin?" "No." "And how do you tell then?" "It is easy to see who has the worst of the argument, by noticing who loses his temper first."

YOUTH'S CORNER.

Suppose So.

BY MRS. HOYT.

Suppose I tell you of a boy;
  Suppose you are the one;
Suppose that you were home from school,
  And all your chores were done.

Suppose you'd had your supper
  And, as you would, no doubt,
You'd turned good order, turned the house,
  And turned things inside out,

Until you'd had your head and heels
  In every place but one,
And that's the place they should have been,
  My darling little son.

Suppose you'd acted all your pranks
  The best that you knew how,
And with the cat, and with the dog,
  Had had a general row;

And made your baby brother cry,
  And snipped your sisters curls,
And almost made your mother wish
  That all her boys were girls.

Supposing then you took your sled,
  And with your usual noise,
Went out to slide awhile down hill
  With twenty other boys.

Suppose they saw you coming,
  And shouted as they said
Hurrah! here comes another one,
  And with him comes a sled!

Suppose the wind were very cold
  And blew with all its might;
Suppose the stars were shining,
  Suppose the snow were white.

And so suppose you launched your sleds
  And flew adown the ice,
And sometimes went head over heels,
  And sometimes over twice.

Suppose that you could hardly tell
  Which one of you was which,
As scrabbling up from where the snow
  Had drifted in the ditch,

You twenty boys, on forty feet,
  Tried who could soonest gain
The place to plant your gallant sleds
  And go pell mell again.

Suppose you laughed and did n't mind
  The cold that else had bitten,
And did n't know whose knees were out,
  Or who had lost his mitten,

But clapped your hands and all cried "yes!"
  When same one said suppose
We build us here a war-man,
  Out of these crystal snows.

Suppose you built him big and high,
  And trenched about the spot;
And built a cockade on his head,
  And called him General Scott;

And built him with an epaulet,
  And built him with a sword,
To stand and scare the passers by
  Should any come toward.

Suppose at last all started home,
  And trudging o'er the snow,
You wished it were the time to come,
  And not the time to go.

And now suppose I tell you
  Why all these things were done;
Why just because you wanted to,
  And just because 't was fun.

Amusing Games.

A few evenings since we saw the following games played at a party, in which old and young joined. They created much merriment, particularly the later. In the first, called "Find the Ring," a ring was slipped on to a small cord long enough to extend around the circle of players. Each person took hold of this cord, the ends of which were tied together so that the ring could not drop. The players stood near enough together to pass the ring from the hands of one to the other. One of the party stood in the middle of the circle, and altogether commenced moving their hands back and forth, as though passing the ring. The one in the middle endeavored by watching closely, to detect which hand contained the ring. This was not always easy, as the players all tried to conceal it by passing it slyly from one to another, and also to attract the attention of the "finder," by pretending to pass it when it was not in their hands. The person in whose hand the ring was found, was obliged to take his place in the middle; if the "finder" selected the wrong party as possessor, he must try again, and perhaps submit to some penalty.

The second game, called "The Voyage to India," was calculated to try a person's power of keeping a sober face, as every one detected laughing must be counted out until the next game. All took their seats in a circle. One commenced the play by saying to his right-hand neighbor, "My brother has returned from India." His neighbor asked, "What did he bring you?" "A fan," was the reply; then the first speaker waved his hand as though using a fan, while his neighbor held the same conversation with the one on his right hand, and then commenced waving his hand. This

was repeated all around the circle, until each one sat fanning himself with one hand. When it had passed around, the leader said to his neighbor, "My brother brought me two fans," and at the same time commenced fanning himself with both hands; and this was passed around the circle from one to the other until all were industriously using both hands. "My brother brought me a boot," said the first speaker, swinging his foot back and forth, which went the rounds, then two boots were swung; thus all the hands and feet of the party were in motion. By this time the scene was so ludicrous that most of the company had joined in a hearty laugh, and were obliged to leave the ring. But some five or six yet remained. "My brother brought me a hat," said the leader, shaking his head, hands and feet, and all followed the example. "My brother brought me a cushion;" then hands, feet, head and body were set in motion, and the gravest of the company could hold in no longer, and so the play ended with a shout. If this had failed, the leader intended next to mention a whistle; if any could keep from laughing after that, we think further trial would have been useless.

Origin of Great Men.

The following account of the origin of many of the great men of the world shows that true greatness is independent of circumstances:

Columbus was the son of a weaver, and a weaver himself. Rabelias was the son of an apothecary. Claude Loraine was bred of a pastry cook. Mohr was the son of a tapestry maker. Ceavantes was a common soldier.—Homer was the son of a poor famrer. Demosthenes was the son of a cutler. Terence was a slave. Oliver Cromwell was the son of a brewer. John Howard was an apprentice to a grocer. Franklin was a journeyman printer, and son of a talowchandler and soapboiler.—Dr. Thomas, Bishop of Worcester, was the son of a linen draper. Daniel Defoe was a hosier, and son of a butcher. Whitefield was the son of an inn-keeper at Gloucester. Sir Cloudesley Shovei, rear admiral of England, was an apprentice to a shoe-maker, and afterwards a cabin-boy. Bishop Prideau worked in the kitchen at Exetor College, Oxford. Cardinal Woolsley was the son of a butcher. Ferguson was a shepherd. Dean Tucker was the son of a poor farmer in Cardiganshire, and performed his journeys to Oxford on foot. Edmund Halley was the son of a farmer at Ashley de la Douch. Lucian was the son of a maker of statuary. Virgil was the son of a porter.—Horace was the son of a shop-keeper, Shakspeare was the son of a woolstapler. Milton was the son of a money scrivener. Pope was the son of a merchant. Robert Burns was the son of a ploughman in Ayreshire.

EDUCATIONAL.

The Club as an Educational Institution.

Education is as much a necessity to the mind and business of the farmer as it is to the success of the physician, the lawyer, or the statesman. It need not be of the kind offered by the schools,—though that is desirable, and really very important,—but discipline of the mind, and knowledge of the leading facts and principles involved in his pursuit, must be had, in order to the best success.

Much of this may be acquired incidentally by the farmer—indeed is inevitable, as a result of his daily experience; but surely much more is acquirable from the study of the best authorities, from a comparison of notes with other farmers, and from a discussion with them of difficult points involving practical principles not yet fully determined. And what better agency for the attainment of these results than the *Farmer's Club?*

Wherever the Club has been instituted it has proven a source of high satisfaction and great good to all concerned. Indeed we have in mind portions of our State in which whole districts have been very perceptibly improved, in their agriculture through the instrumentality of such organizations.

We have annually, on the approach of winter which is the farmer's leisure season, urged their formation; still they are exceptional rather than general, and we, hence, feel impelled to re-introduce the subject at this time and to ask every enterprising reader of the FARMER to see that such a club is organized in his neighborhood, and at once, so that the operations of the coming spring may have the benefit of this winter's accumulation of knowledge.

☞ The Astor Library of New York city, was increased by about 6,000 volumes during the year 1860, at an expense of $13,328. The library now contains, in all, about 116,000 volumes, and the number consulted during the last year was 59,516. The fund for maintaining the library is undiminished, and now amounts to $190,000, safely invested.

Visit your Neighborhood School.

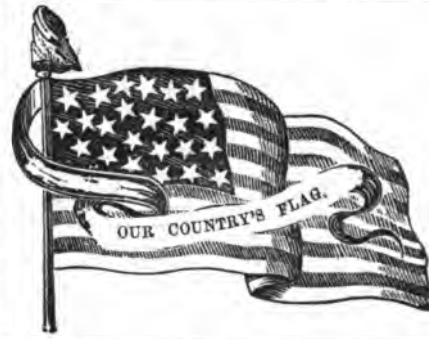
Questions of wheat culture and the most economical production of beef and pork, are certainly important; and, as this is an *agricultural* periodical, we of course devote much the largest share of space to those matters, of exclusive material interest. There are other things, however, which demand our attention, and the attention of farmers, just as really as these,—indeed, it properly comes within the province of the *Farmer* to treat of everything which intimately concerns the agriculturalist, the mechanic, or in any way belongs to rural life. And of all the great number of interests which are incidental to these classes of readers, what ones are more important than those which are involved in the education of their children?

Shall the farmer bestow his most careful and assiduous attention upon the growing of crops and the improvement of stock, and yet give no thought to the raising of his own offspring?

Never Do Too Much at a Time.

Sir Edward Bulwer Lytton, in a lecture recently delivered, gave the following history of his literary habits:—"Many persons, seeing me so engaged in active life, and so much about the world as if I had never been a student, have said to me, 'When do you get time to write all your books? How on earth do you contrive to do so much work?' I shall surprise you by the answer I make. The answer is this:—'I contrive to do so much by never doing too much at a time.' A man, to get through work well, must not overwork himself, or if he do too much to-day, the reaction of fatigue will come, and he will be obliged to do too little to-morrow. Now, since I began really and earnestly to study, which was not till I had left college, and was actually in the world, I may perhaps say I have gone through as large a course of general reading as most men of my time. I have travelled much, and I have seen much; I have mixed much in politics, and the various business of life; and in addition to all this, I have published somewhere about sixty volumes, so ie upon subjects requiring much research. ınd what time, do you think, as a general ·ıe, I have devoted to study—to reading and writing? Not more than three hours a day; and when Parliament was sitting, not always that. But then, during those hours, I have given my whole attention to what I was about."

WAR MISCELLANY.



War Sonnet.

Oh for a man of great and fearless heart,
With love of right and freedom all aglow,
And nerve to strike one swift, resistless blow,
And cleave foul treason's brazen head apart.
Oh could the people's trusted servants see
That this, and this alone, will give success;
Crush every traitor into nothingness,
And make us what we are not, truly free.
If these our rulers cannot rise above
Finesse, and selfish fear, in this dark hour;
And wield the scepter of the people's power
For right and justice, liberty and love;
Then rise some bold, true man, to guide us o'er
War's bloody sea to freedom's peaceful shore,

[*N. Y. Independent.*

Origin of Great Generals.

It is interesting in our present struggle to recur to the beginning of the military career, and the preparatory education received by the most renowned captains and commanders, during the wars of the first quarter of this century. Every one is familiar with the early history of Napoleon and of Wellington. The following information concerning their cotemporaries shows how few of them received any scientific military education, their talents and genius being revealed in actions on the field of battles:

Augereau—Scarcely educated; he enlisted as a volunteer in the rank and file.

Blucher—No military education.

Berthier—Military engineer; he was always in the staff, never commanding troops.

Bessieres—Hairdresser; enlisted as a volunteer in the rank and file.

Clauzel—No preparatory education; rank and file.

Davoust—From military school at Brienne; he entered the cavalry; he was considered with Massena, next to Napoleon.

Bernadotte—No military education; he began as a volunteer in the rank and file.

Gouvion StCyr—Drawing teacher; a volunteer in the rank and file.

Gerard—No military education; a volunteer in the rank and file.

Gueisenau—No military education; he rose from the ranks.

Hoche—No military education: a volunteer in the rank and file.

Kleirer—Architect; slender military education; he began in the regular infantry.

Kleist—No special military education.

Macdonald—No special military education.

Marmont—Educated for the military.

Massena—No military education; a volunteer in the rank and file.

Maison—No military education; a volunteer in the rank and file.

Montebello (Lannes)—Dyer; a volunteer in the rank and file.

Mortier—No military education; a volunteer in the rank and file.

Soult—No special Military education; a volunteer in the rank and file.

Junot—Public school education; a volunteer in the rank and file.

Moreau—Lawyer; a volunteer in the rank and file.

Any one pursuing this list will be able to make for himself the natural deductions, and will gain confidence in volunteers, from whom have come the greatest number of renowned commanders in the French armies.—*New York Tribune.*

WHAT GOVERNMENT PAYS FOR RAILROAD TRANSPORTATION.—The Government pays for railroad transportation according to the following rates:

Per passenger per mile, 2 cents for distance moved. Equipments, munitions, and supplies accompanying regiments, 30 miles or less, 10 cents per 100 pounds; 50 miles, 15 cents per 100 pounds; 100 miles, 25 cents per 100 pounds; 150 miles, 40 cents per 100 pounds; 200 miles, 50 cents per 100 pounds; 300 miles, 75 cents per 100 pounds; 350 to 400 miles, not exceeding 90 cents per 100 pounds; special express trains, $1 per mile.

HORSES—One animal counts as 3,000 pounds; 2 animals count as 4,000 pounds; 3 animals count as 5,000 pounds; 4 animals count as 6,500 pounds; 5 animals count as 8,000 pounds; 6 animals count as 9,000 pounds; 7 animals count as 10,000 pounds; 8 animals count as 11,000 pounds; 9 animals count as 12,000 pounds; 14 animals, 18,000 pounds, counts as a full car-load. Provisions and heavy freights, 2 to 3 cents per tun of 2,000 pounds per mile. Dry goods, clothing, and light goods, 3 to 5 cents per tun of 2,000 pounds per mile, One large car-load is reckoned at 9 tuns.

☞ The mortality of the present war thus far, ought not to be very great, certainly; and yet Life Insurance Co. statisticians claim that it compares unfavorably with that of many others known in history.

NEWS SUMMARY.

DOINGS OF AGRICULTURAL SOCIETIES.

Meeting of Ex. Committee of W. S. A. S.—MADISON, December 10th, 1861.—Pursuant to notice, and as provided in the By-Laws governing their action, the Executive Committee of the Wisconsin State Agricultural Society met at the Agricultural Rooms, Dec. 10, for the examination and adjustment of the accounts of the Secretary and Treasurer, and for such other business as might come before them.

Called to order by the President.

The Secretary, being unable to be present, on account of illness, invited the Committee to meet at his residence; which invitation, on motion, was accepted, and the Committee adjourned to so meet at 9 o'clock of the following day.

December 11—9 o'clock, A. M.—Committee met pursuant to adjournment. Present, B. R. HINKLEY, President; O. T. MAXSON, J. W. HOYT and H. P. HALL.

On motion of Mr. HOYT, H. P. HALL was appointed Secretary *pro tem.*

The Secretary presented a report of the finances of the Society, embracing all the receipts for the current year and a full detail of all the orders issued by him as Treasurer for the same period; also a detail of his own individual account with the Society.

On motion the report was approved and ordered to be put upon file for comparison with the account of DAVID ATWOOD, Treasurer, whose absence from the State prevented his attendance upon the meeting.

The Secretary made a further report showing the character of the Sixth Vol. of Transactions, now in press, and the progress making in the Agricultural Survey of the County of Dane, authorized by the Board of Agriculture at its last regular meeting.

There being no further business before the Committee, on motion, the Committee adjourned *sine die.* H. P. HALL, *Sec'y pro tem.*

Annual Meeting of Wis. State Agricultural Society.—STATE AGRICULTURAL ROOMS, Madison, Dec. 11, 1861.—In accordance with the provisions of Art. V. of the Constitution, the Wisconsin State Agricultural Society held its Annual Meeting for 1861 in these Rooms, Dec. 11th, at 3 o'clock, p. m. B. R. HINKLEY, President, in the chair.

On motion, H. P. HALL was appointed Secretary *pro tem.*

The President, as Chairman of the Auditing Committee, presented the Report of the Secretary on the finances of the Society, and made a further statement of the embarrassments of the Society, owing to the non-holding of the accustomed Fair, and the necessity under which the Society was placed of waiting, at least another year, for the returns which should result to the Treasury from the sales of lumber and other material.

On motion, the explanation of the necessary absence of the Treasurer was received, and the Executive Committee authorized and required, through its auditing officers, to receive, at such time as may be notified by the President, his report of the receipts and expenditures for the year, to examine the same—comparing all accounts with their vouchers and with the accounts and vouchers of the Secretary—and to report thereon to the Governor, as required by law.

Mr. HOYT gave notice, through the Executive Committee, and with their approval, of the following amendment to the Constitution:

Strike out the second paragraph in Article V., as published in the 5th Vol. of Transactions of the Society—said paragraph commencing with the sixth line and ending with the twentieth of said Art. V.—and substitute therefor the following, to-wit:

The election of all officers of this Society shall be held each year during and at the State Fair, and the exact time and place of election shall be notified by the Secretary in the public newspapers, at least twenty days before such election, and the Life Members of the Society and the Presidents of the several County Agricultural Societies legally organized and in active operation in the State, shall be the legal voters thereat; and the officers so elected shall continue in their respective offices during the period of one year, from the first day of January subsequent to their election, or until their successors shall have been constitutionally elected and qualified.

After some informal discussion as to the operations of the Society for the coming year, and the best means for promoting its general interests and advancing the Agriculture of the State, the Society adjourned *sine die.*

H. P. HALL, *Sec'y pro tem.*

STATE MATTERS.

The Grain Markets have slightly improved since the date of our last report. The New York reports indicate firmness and a slow advance. In view of the condition of this country and of foreign nations, it seems impossible that prices should not yet, and within a very few months, come up to very remunerative figures.

MILWAUKEE MARKET.

To-day (Dec. 28), wheat, No. 2, sold for 65c, and No. 1 Spring for 69c. Sales in store—No. 2 at 65c; No. 1 at 69c; extra at 70@71c. Oats were 22c; Corn, 27c@28c; Barley, 35c @45c; Rye, 32c@33c—all delivered.

MADISON MARKET.

Wheat—Extra Club, 68c; No. 1 club, 67c; No. 2 club, 64c. Rye, 35c; Barley, 20c@45c; Oats, 25c; Corn, 25c@30c.

Pork and Beef rate low; the former selling at $2 00@$2 60 per cwt., the latter at $2 00 @$3 00 per cwt.

Political.—The Legislature to be organized on the second Wednesday of January, will be composed of the following gentlemen:

SENATE.

1. L. L. Cary,	Rep	17. Ezra A. Foote,	Rep
2. Edward Hicks,	Dem	18. Jos Rich,	Dem
3. Hugh Cunning,	Dem	19. — Jenkins,	Rep
4. F. O. Thorpe,	D m	20. G. W. Mitchell,	Dem
5. Charles Quinten,	Dem	21. S. M. Hay,	Rep
6. Edward Koch,	D-m	22. T. R. Hudd,	Dem
7. Wm. L. Utley,	Rep	23. E. Montgomery,	Rep
8. H. S Thorpe,	Rep	24. E. A. West,	Rep
9. J. T. Kingston,	Rep	25. G. W. Hazleton,	Rep
10. Geo. C. Pratt,	Dem	26. S F. Hopkins,	Rep
11. Samuel C. Bean,	Rep	27. E. L Browne,	Rep
12. Wyman Spooner,	Rep	28. H L. Humphrey,	Rep
13. Samuel Cole,	Dem	29. Charles S. Kelsey,	Rep
14. S. S Wilkinson,	Rep	30. Norman S. Cate,	Rep
15. L W. Jviner,	Rep	31. Edwin Flint,	Rep
16. M. K. Young,	Rep	32. M. D. Bartlett,	Rep
33. Satterlee Clark,			Dem

ASSEMBLY.

ADAMS—		MANITOWOC—	
C. H Hall,	Rep	S. Roundsville,	Un Dem
BAD AX—		James Cahill,	Dem
Ole Johnson,	Rep	Elisha K. Rand,	Dem
J. M. Rusk,	Rep		

BROWN—
Fred. S. Ellis,.....Dem

CALUMET—
W. F. Watrous, ...Dem

COLUMBIA—
Jona hon Bowman, ..Rep
R. B. Sanderson,.....Rep
Wm. Dutcher....Un. Dem

CRAWFORD—
O. B. Thomas, ...Dem

DANE—
Benj. F. Adams, ...Rep
W. H. Chandler,.....Rep
N. M. Matts, ...Rep
Edmund Jussen,.....Rep
A. S. Sanborn, ...Dem

DODGE—
H. C. Griffin.....Dem
J. F. McCullum,.....Dem
D. D. Hoppock, ...Dem
J. G. Myers,.....Dem
Q. H. Barron,.....Rep

DOOR, OCONTO AND SHAWANAW—
Ezra B. Stevens, ...Rep

DOUGLAS, POLK, LA POINTE, &c.—
George R. Stunts,....Rep

EAU CLAIRE, CHIPPEWA AND DUNN—
H. W Barnes,...Un Dem

FOND DU LAC—
C. F. Hammond,.....Rep
H. C. Hamilton, ...Dem
C. McLean, ...Dem
John Boyd .....Dem
W. W. Hatcher,.....Dem

GRANT—
Wm. Brandon, ...Rep
Allen Taylor,.....Rep
J. T. Mills,.....Rep
W. W. Field,.....Un Rep
Samuel Newick, ...Rep

GREEN—
G. W. D. Leonard,....Rep
H. T. Moore,.....Un Dem

GREEN LAKE—
A. Nichols,.....Rep

IOWA—
Alex. Campbell,.....Dem
(vacancy)

JACKSON AND CLARK—
O. C Pope.....Rep

JEFFERSON—
W S Green, ...Dem
Peter Rogan, ... Dem
W. W. Reed,.....Un Rep
J. R. Crosby,.....Rep

JUNEAU—
D. R. W. Williams,...Rep

KENOSHA—
R. L. Bassett,....Un Dem

KEWAUNEE—
G W Elliott, ...Dem

LA CROSSE—
T. B. Stoddard, ..Un Rep

LA FAYETTE—
C. B. Jennings, ...Dem
James Wadsworth, ..Dem

MARATHON AND WOOD—
C. Hoffinger, ...Dem

MARQUATTE—
H. S. Thomas,.....Dem

MILWAUKEE—
George Abert,.....Dem
Henry Kerschoff,....Dem
Geo. K. Gregory, ...Dem
Perley J. Shumway,..Dem
Henry L. Palmer,....Dem
Adam Finger, ...Dem
J. V V. Platte,.....Dem
L. Semmann,.....Dem
J. M. Stowell,.....Dem

MONROE—
[Vacancy, by death.]

OZAUKEE—
J. A. Schleitz,.....Dem

OUTAGAMIE—
Milo Coles,.....Dem

PIERCE AND ST. CROIX—
J. W. Beardsley,..Un Dem

PORTAGE—
A. S. McDill,.....Un Rep

RACINE—
Thos. Butler,.....Dem
Jas. Catton,.....Dem
Calvin H. Upham....Rep

RICHLAND—
L. D. Gage, ...Dem

ROCK—
N. S. Howard.....Rep
Ephraim Palmer, ...Rep
Samuel Miller,.....Rep
John Bannister...Un Rep
Allen C. Bates, ...Rep
Orrin Guernsey,.....Rep

SAUK—
J. S. Tripp,.....Un Dem
A. W. Starks,....Un Dem

SHEBOYGAN—
J M. Thomas,.....Dem
Godfrey Stamm, ...Dem
S. D. Hubbard....Un Rep
Benj. Dockstader,....Rep

TREMPELEAU, PEPIN & BUFFALO—
Orlando Brown,.....Rep

WALWORTH—
H. W. Boyce,....Ind. Rep
H Latham,.....Dem
E. P. Arnold,.....Rep
Sylvester Hanson,....Rep

WASHINGTON—
Michael Haloy,.....Dem
Rob. Salter,.....Dem
Thos. Barry,.....Dem

WAUKESHA—
Geo. W. Brown,.....Dem
W. A. Vanderpool,...Dem
Peter D. Giffard,... Dem
Samuel Thompson,...Rep

WAUPACCA—
C. D. Combs, ...Rep

WAUSHARA—
Wm. C. Webb,....Un Rep

WINNEBAGO—
W. E. Wanson, ...Rep
David R. Bean,.....Rep
Michael Hogan,.....Dem

Straight Democrats,		46
Union Democrats,		8
		— 54
Straight Republicans,	36	
Independent and Union Republicans,	8	
		— 44
Vacancies,		2

Many of the new members are men whom we know personally to be able and worthy representatives of their respective localities, and in view of the times and circumstances we shall hope for an harmonious and creditable session.

Military preparations have gone forward with a most commendable zeal and energy. According to present appearances it will be but a short time until Wisconsin will have twenty thousand men in the service of the Government—all of good material and better equipped and provided than almost any troops now in the field.

The Weather has been, and promises to continue, remarkably favorable to health and the out-door operations of the farmer.

NATIONAL AFFAIRS.

The War of the Rebellion has made but little progress within the last month. Gen. POPE has had an engagement with a large body of the Rebels in Western Missouri, killing some hundreds, capturing valuable stores and taking twelve hundred prisoners (now in St. Louis). Gen. HALLECK has hung some 18 or more of the bridge burners, and succeeded in driving PRICE from the State, and in clearing out nearly, if not all, considerable bodies of armed traitors.

In Kentucky, the Union troops are in large force and are slowly crowding the rebels southward, though no important engagement has yet occurred.

In Western Virginia the Federal troops have held their positions pretty well, and FLOYD has been ordered by JEFF. DAVIS to East Tennessee.

On the Potomac *nothing has happened!*

Charleston, South Carolina, has been about half burned up; the village of Beaufort is in possession of the Government forces, and constant encroachments are being made upon the enemy's territory in all directions from that point. They are now said to be within twenty or thirty miles of both Savannah and Charleston.

At Fort Pickens an engagement of some interest occurred on the ——, resulting in serious damage to the Navy Yard, the silencing of Fort McRae, and the conviction on the part of the rebels, that Pickens cannot be so easily taken as they have been wont to imagine.

On the Mississippi, the only event worthy of note is the taking of Ship Island, a point of some importance 65 miles below New Orleans and about 70 from Mobile.

It will appear, therefore, that this immense army of the Union, which now numbers between six and seven hundred thousand men is quietly passing the winter without thus far having done anything towards the suppression of the rebellion. This may be the wisest course to pursue, but, now that we have the men and means, we can hardly help wishing for a JACKSON who should tread the Hydra, Treason, under his feet.

MASON and SLIDELL have been delivered over to Lord LYONS with the understanding, we believe, that the right of "search and seizure" which the English Government has always claimed and the United States denied, shall not henceforth be exereised by either nation. Their imprisonment lasted long enough to give all the Johnny Bulls in Great Britain and Canada an opportunity to show their ill feeling and their desire to make an end of our Republic.

Congressional.—Congress opened its session at the appointed hour, and up to the holidays was occupied in discussing various questions of interest, but had accomplished little or nothing of great importance. Various plans for crippling the rebellion, as by the confiscation of all property of traitors, including slaves, have been introduced and are now pending. Among the most decided and resolute of those who favor such measures, we have great pleasure in being able to rank Hon. GARRETT DAVIS of Kentucky, successor to the base traitor, BRECKENRIDGE.

The MORRILL Land Bill which once passed both houses of Congress, and was vetoed by Mr. BUCHANAN, was re-introduced early in the present session, but has virtually been killed. It will be remembered that it provided for the endowment of Agricultural Schools. Although a noble and beneficent measure, it will probably be a long time ere it becomes a law.

The President's Message was moderate in terms and somewhat reserved as to the future policy of the Government in suppressing the rebellion. The Reports of the Executive Departments, especially those of the Secretaries of War and of the Treasury, are able documents and have doubtless been read ere this by most of our readers. The limit of our space, of course, precludes their publication in the FARMER.

The Treasurer's plan for the issue of Treasury Notes for circulation and general use instead of much of the worthless wild cat trash that curses the country, seems to have met the approval of most of the able financial men of the nation.

The Secretary of War's Report recommends vigorous measures for the prosecution of the war, and is not so exceedingly tender in its treatment of the great root of the rebellion as his Senatorial career had warranted the country in expecting. Mr. CAMERON has struck the right chord in the national heart, and there is but little doubt that, sooner or later, his policy will necessarily become the practice of the American armies. It appears by his Report that there are now nearly seven hundred thousand men enrolled for the fight!

FOREIGN AFFAIRS.

The most important foreign intelligence of the past month relates to the capture and burning in the English channel, of the American merchant ship *Harvey Birch* by the Confederate war steamer, *Nashville*—to the financial embarrassments of the French Government, which have resulted in important concessions on the part of the Emperor to Congress—to the difficulties in Russia, which have necessitated the convocation of a family council to adopt measures for strengthening the reigning dynasty—to the apparent anxiety on the part of the English

Government (not of the *people*) for some pretext for a war with America, at this time, while her peril continues, from enemies at home—and to the sudden death of Prince Albert on the 15th ult.

The Prince justly enjoyed the esteem of the people of the British Realm and of the friends of Industry and of Science of the whole civilized world. The following brief account of his early life and of his subsequent career is copied from the N. Y. *Independent* with the cordial endorsement of this paper:

The Prince was born in the Austrian castle of Rosenau, August 26, 1819, in the same year with the Queen, being three months her junior. He received his early education from private tutors, and afterwards entered Bonn University for the study of jurisprudence. He was not a brilliant but laborious student, winning a reputation for methodical habits by keeping diligently to his books ten hours a day. A small house, simple in aspect, hidden by trees, and standing in the shadow of the cathedral of Bonn, is still pointed out as the Prince's modest residence during his university career.

A few months before reaching his nineteenth year, he made a visit to England in the company of the King of Belgium, and, before returning, plighted his troth with the young Queen. The alliance, which was publicly celebrated with many festivities in 1840, proved to be not only a marriage of state, but, so far as the world knows, a marriage of love.

The Prince's first popularity in England arose from the announcement that he was a stanch Protestant—a character which he stanchly held all his life long. His high-toned personal character was worthy of his station, or of any station. He was a man of refined taste, with a German genius for music, considerable skill in drawing, and wrote English verses which he was wise enough not to expose in print. As consort to the Queen, he had in himself no reigning rights, and being thus prohibited from mingling in politics, he devoted himself zealously to the education of his children; to which end, his family fortunately grew large enough to give him a sufficiently wide range of employment. No wealthy Englishman did more than he to foster the growth of science and art in Great Britain. He was, moreover, in the habit of giving not only his money but his personal interest and laborious industry to the furtherance of many salutary schemes of practical philanthropy; often making personal journeys to distant parts of the kingdom on such errands. To him belongs that part of the design of the World's Fair at London, which made it an exhibition of the industry, not merely of Great Britain, but of all nations. He was a scientific agriculturist, and took great pride in raising cattle, poultry, and general farm stock, and in carrying off prizes at agricultural fairs. He was an elegant and courtly chairman of public meetings, and his absence from the annual sessions of the Scientific Congress will be a loss to that body not easily repaired. He leaves a memory unstained.

It is believed by many shrewd calculators of political events that this sudden death of the Prince will prove an occasion to the Queen, whose health was before very precarious, for abdicating in favor of her son, the Prince of Wales. In case this should happen, there is no reason to fear a more unjust and unreasonable policy than that which has been practiced thus far towards the Government of this country during its present struggle with the rebellion.

EDITORIAL MISCELLANY.

The Lateness of this Number is due to the dangerous and protracted illness of the Editor, and has therefore been absolutely unavoidable. For more than a month confined to his bed by congestion of the brain, the preparation of matter for January has necessarily been limited to a very few days at the close of December. This will also account for any imperfections that may specially characterize the present number.

The Farmer for 1862.—It appears to be universally conceded that the FARMER for the last six months has been a material improvement upon all preceding volumes. This is the verdict of the press of the State, of foreign exchanges, and of those who have been its friends and patrons since its origin, thirteen years ago. But the bare assurance of this improved character, however gratifying to Editor and Publishers, is not, of itself, sufficient. Material aid is even more necessary than the most hearty congratulations.

There probably never has been a time when periodicals of this nature have had so hard a struggle to maintain an existance; and during the past year, the number of those which have not been compelled to make sacrifices to do so, has certainly not been large.

In Wisconsin, the FARMER is the only agricultural paper published. So long, therefore, as it is made a sound, reliable, and interesting journal for the advancement of all our home industrial interests, it is certainly entitled to the co-operation of every friend of industry in the State. And if equally sound, reliable and interesting, then is it entitled to precedence before all other papers of its class. This proposition, we take it, cannot be gainsaid; and if the opinion of competent judges is worth anything, the Publishers of the FARMER have a right to expect the cordial and active support of the people.

We are willing to acknowledge that the management of the paper for a portion of the time during which we have had editorial connection with it, has not been without serious fault. Indeed, it is still laboring under the disadvantage of the almost total neglect which characterised its publication department for some time previous to July, 1861, and we are sorry to say that some of our best friends have had apparent (in a few instances perhaps real) reason to complain of the present publishers. When we took the FARMER in hand on the 1st of July last, its accounts and subscription list were so badly *mixed* that not until the expiration of the year was it possible to know just how they should be adjusted. We have the consciousness, however, of having spared no pains to insure justice to all parties, and therefore bespeak the indulgence of any who have been annoyed by circumstances which it has been impossible for us to control. Dec. 31st has made an end of the "old reign of *error*," and, hereafter, if mistakes occur, they may be charged either to the account of the present Publishers or to the imperfections which necessarily attach to all human agencies and institutions.

In the Publication Department it is our determination to inaugurate a new era; and if the men are in the State or country who possess the qualifications of competency and faithfulness for the discharge of the duties which belong to that department, the patrons of the FARMER shall have the benefit of their labors. Arrangements are now making which will insure this.

As to the Editorial Department we promise nothing more than that we shall continue to do the best we can to make the FARMER the best Agricultural paper published in the United States. Our facilities here in the West for getting up showy illustrations are not yet equal to those of some eastern publications, but with our acquaintance with the climate, soils, &c., and our better information as to the consequent needs of the industry of the West, we are confident of being able to give our readers who care rather for substantial matter, more than an equivalent.

The Horticultural Department has made valuable acquisitions in the secured services of the eminent fruit culturist A. G. HANFORD, Esq., as Corresponding Editor, and in the large number of able contributors to its columns; the "Bee-Keeper" will also have the benefit of contributions from practical culturists, who have been induced to furnish regular articles for that department; and the Agricultural and Miscellaneous departments will be enriched by the correspondence of eminent gentlemen—Foreign Ministers and other officers of the Government—now resident in Russia, Spain, South America and New Mexico. As Commissioner to the Great Exhibition of the Industry of all nations, the Editor will likewise be able to furnish his readers with accurate and interesting accounts of the Exhibition and of the industry of Great Britain.

Such are our plans and arrangements for 1862. If they do not warrant renewed efforts on the part of all our old friends and the active enlistment of new canvassing agents in all parts of the State, then we are at a loss to determine what should be considered sufficient inducements.

To Voluntary Agents and Friends.—Since 1857 the FARMER has had no paid traveling agent in the field. The stringency of the times seemed not to warrant the expense, and the sole reliance has been upon the voluntary and gratuitous efforts of the many friends of the paper who reside in all parts of the Northwest.—Some of these friends are still zealous; others appear to have grown slightly "weary in well-doing," and a few have been persuaded by the dazzling offer of "great prizes" to give their best efforts to the circulation of foreign papers.

It is not our intention to blame this last class of friends, for the baits held out are often tempting. Perhaps it might *pay* for us to employ similar means for increasing our list, but we don't like the plan of publishing a two dollar journal at one dollar, and then paying a seventy-five cent premium for each subscriber,s name; and it is, therefore, hardly probable that we shall go as extensively into the practice of buying friends as is done by some of our cotemporaries.

The FARMER is laboring zealously, and by no means selfishly, for the advancement of all branches of industry in the Northwestern States. If this does not entitle it to the hearty support and co-operation of Northwestern industrial men, then certainly a few paltry prizes could hardly create a valid claim to such co-operation.

Our terms, as published in the Prospectus on 4th page of cover, are the best that can be afforded at present.—We ask all those who have formerly helped in extending the circulation of this paper, and all others who would have pleasure in contributing to the progress of the good cause in which we labor, to look the matter over, and see whether they cannot find in the character of the journal itself, in the good work to which it is devoted, and in the terms on which it is offered, sufficient cause for hearty endorsement and active aid in giving it a more extended circulation.

Our Contributors.—Many thanks are due to the several gentlemen whose pens have been so ably and generously employed for the benefit of our readers during the past year. Especially do we tender our acknowledgements to Messrs. J. C. Plumb, A. G. Hanford, O. S. Willey and W. H. Morrison, for their interesting and valuable contributions to the Horticultural and Bee Keeper's departments. Need we add that the other departments of the paper have equal claims upon those of our readers whose special pursuits qualify them to furnish valuable information on subjects pertaining to the culture of the soil, the breeding and management of stock, the mechanic arts, science, art, education and domestic economy?

We earnestly solicit contributions on all these subjects, or any others, coming within the scope of the FARMER, and hope most sincerely that the friends of the industry of Wisconsin and the Northwest will be more mindful of the claims of their own Home Journal this year than during the past. WRITE AS CONCISELY, PITHILY AND PRACTICALLY AS POSSIBLE, BUT BY ALL MEANS, WRITE!

Full Reparation.—All persons who paid their subscriptions for 1861 to M. Cullaton, former Publisher, and for any cause have not received their full complement of numbers, may consider themselves entitled to such missing numbers (unless the editions should be exhausted) without charge. And if there should be any who paid their subscriptions for 1861, and yet have failed entirely to receive the FARMER, they shall be furnished with the paper for an equal length of time the present year.

Personal.—Among the military men now in camp at this place, we have been pleased to find two of our old agricultural friends, to-wit: Dr. O. T. MAXON, of Hudson, long a valuable member of the Ex. Com. of the W.S.A.S., now 1st Lieut. of the Lyon Guards, and Col. K. K. JONES, formerly of Manitowoc, late Agricultural Editor of the Quincey (Ill.) *Whig*, and now Lieut. Colonel of the 15th (Scandinavian) Regiment. They are both sterling men and will make splendid commanders.

The World's Fair.—The smoke raised by the MASON and SLIDELL affair having cleared away, there is now no further question as to the fact of a representation of American products at the Great International Exhibition to be opened May 1, 1862. The only question for the friends of American Industry to decide is, whether that representation shall be creditable.

According to the arrangements made by the Ex. Committee of the American Board of Commissioners, before this number shall reach a majority of its readers, it will be too late to get articles to New York in time for the Government vessel.

Articles will be received at the Exhibition, however, until Dec. 31st, and several ocean expresses are offering to carry articles at low rates.

The Editor of this paper received, some months since, the appointment of Commissioner for Wisconsin, and only regrets that the Board of Commissioners appointed by Mr. SEWARD to adopt regulations for the government of all matters pertaining to contributions from this country, were so late in adopting and publishing those regulations that it has been practically impossible for him to republish them in time to enable Western Exhibitors to get anything ready for the Government vessel; and that when copies of the published regulations did finally arrive, his plans was still further embarrassed, indeed almost thwarted by a serious and protracted illness which utterly precluded the transaction of all business, however important.

Something has nevertheless been done, and when the 1st day of May comes, we hope not to be ashamed of the little that Wisconsin and the other Northwestern States will have done.

Several entries of machinery have been made, and the work of making ready representative specimens of the natural products of the State—such as minerals, soils, timbers, &c.—and of some of our agricultural products, is vigorously going forward.

Now that the Government vessel is beyond the reach of those who would have considered free transportation a sufficient inducement, it will afford all Northwestern exhibitors pleasure to know that arrangements have been made with the Det. & Mil. R. W. for free transportation of all articles designed for the Exhibition, and that other roads between Wisconsin and New York are expected to make similar arrangements. In evidence, we quote the following characteristic words from a cordial and most generous letter just received from W. K. MUIR, Gen. Supt. of the D. & M. R. W.:

"*My Dear Sir:*—We shall be happy to convey the Wisconsin and Minnesota contributions to the Great Exhibition *free*. I believe the Great Western R. W. will do so, as well, and I will try the N. Y. C. R. & Hudson R. R. to-day."

We had also written to the officers of the roads named, but have not yet received replies. Of course *our* roads will not be behind those located in other States.

In the Dec. No. we published the classification, together with the important regulations agreed upon by the Royal Commissioners, and also furnished the printer with a complete copy of the regulations adopted by the American Commissioners. These last, owing to our illness, as already explained and to the crowded state of the FARMER's columns, were omitted. It is sufficient to state, however, that *no articles will be shipped from New York which have not been approved by authority of the American Board of Commissioners. In this State, the undersigned is the only representative of said Board;* though any article may be sent, if preferred, to New York, and there be approved or rejected by JOSEPH E. HOLMES, Esq., 61 Canal street, who is duly authorized to act for the Commissioners.

After much enquiry, we are satisfied that of the several Ocean Expresses, none are more reliable than "The Morris Express," whose circular as furnished by L. W. MORRIS, Esq., we publish, in part, below:

"As no articles will be received by Her Majesty's Commissioners at London, later than the 31st of March, 1862, the latest dispatch for the Exhibition will be made by this Express, per steamer of Saturday, March 8th.

Such articles, however, the placing of which, from their great size or weight, require considerable labor, and which, according to decision 14 of Her Majesty's Commissioners, will not be received at the Exhibition Building after the first of March, 1862, have to be shipped from New York, at latest, by the steamer of Saturday, Feb. 8th.

It being required to *secure space* for shipment on board any steamer in advance of placing the goods on board, Exhibitors of packages over 5 cubic feet in size will please advise this Express at least fourteen days previous, that they will send such or such size package (about), when shipment will at once be engaged.

Packages must reach New York three days before sailing of the respective steamers.

Packages, *prepaid to New York office*, will be delivered at the door of the Exhibition Building, under the following Table of Rates:

Not over ¼ cubic foot,		$1.75,	not over	5	lbs.	weight.
Between ¼ and ½ cubic foot,		2.75,	"	10	"	"
" ½ and ¾	"	3.50,	"	15	"	"
" ¾ and 1	"	4.50,	"	20	"	"
" 1 and 2	"	5.50,	"	40	"	"
" 2 and 3	"	6.00,	"	60	"	"
" 3 and 4	"	7.00,	"	80	"	"
" 4 and 5	"	8.00,	"	100	"	"
" 5 and 6	"	9.00,	"	120	"	"
" 6 and 7	"	10.00,	"	140	"	"
" 7 and 8	"	11.00,	"	160	"	"
" 8 and 9	"	12.00,	"	180	"	"
" 9 and 10	"	13.00,	"	200	"	"
" 10 and 11	"	14.00,	"	220	"	"
" 11 and 12	"	15.00,	"	240	"	"
" 12 and 13	"	16.00,	"	260	"	"
" 13 and 14	"	17.00,	"	280	"	"
" 14 and 16	"	18.00,	"	320	"	"
" 16 and 18	"	19.00,	"	360	"	"
" 18 and 20	"	20.00,	"	400	"	"

Over 20 cubic feet measurement and not over 20 lbs. weight to each cubic foot, $1.00 per foot.

EXTRA CHARGES.

Packages weighing more than 20 lbs. a cubic foot, are charged 20 per ct. in addition to above rates.
Packages larger than 40 cubic feet, are charged $3.00 in addition to above rates.
Packages larger than 60 cubic feet, are charged $5.00 in addition to above rates.
Packages larger than 100 cubic feet, are charged $7.00 in addition to above rates.
Packages larger than 160 cubic feet, are charged $10.00 in addition to above rates.

Charges for Custom House Formalities in England and Liverpool Commissions.

On packages containing articles free of duty and under 2 cubic feet,.....each, $0.50
On all other packages, ... " 2.00
Postages for each package,..... " 0.25

New York Commissions.

On all packages under 2 cubic feet,.....each, 0.50
" " between 2 and 40 cubic feet,... " 1.00
" " over 40 cubic feet,..... " 2.00

In order that Exhibitors may know the exact charge for their goods from New York to the Exhibition Building at London, this Express will immediately on receipt of their packages, send a *specified bill*, the amount of which has to be remitted to this Express by return Mail, in funds par at New York. No articles will be actually exhibited until such charges are paid.

Exhibitors will please send letter by Mail same day on which they forward packages, addressed to this Express, enclosing *Certificate for Exhibition by the Commissioners appointed by Government, and without which no package will be forwarded*; stating at the same time by what conveyance the articles have left home, and giving full particulars of contents of each package.

Insurance from New York to Liverpool will only be effected by special request—and this Express is in nowise responsible for dangers of Navigation or by Fire, unless the articles are insured against said hazards. Rate of Insurance to Liverpool, probably 1½ per cent.

Besides the address on each package required by Her Majesty's Commissioners, and which is to be as follows:—

TO THE

COMMISSIONERS FOR THE EXHIBITION OF 1862

Building, South Kensington, London.

From—[state Exhibitor's Name, Place and State.]

Value £—— No of Class in which Exhibited.

Each package must be marked,
Care MORRIS EXPRESS, New York.

Exhibitors are requested to have all articles well packed in boxes, the lids secured with *screws* instead of nails, so as to serve for returning the articles again to this Country after the Exhibition, if not otherwise disposed of.

Goods in the Exhibition Building.

The packages having arrived at the Building of the Exhibition, have of course to be arranged and displayed.

Decision 35 of Her Majesty's Commissioners, says:—

"No counters or fittings will be provided by Her Majesty's Commissioners. Exhibitors will be permitted, "subject only to the necessary regulations, to erect according to their own taste, all the counters, stands, "glass-frames, brackets, awnings, hangings or similar "contrivances, which they may consider best calculated "for the display of their goods."

It is absolutely impossible to fix, even approximately, any scale of rates for that purpose. Exhibitors can form a much more correct idea of what probable expense the *unpacking, putting up, arranging and displaying* of their goods will be than this Express. They are therefore requested to state their views how they would *like* their goods exhibited, and to send with amount of freight, *also the amount of expense* they wish to go to for the purpose of an advantageous show. The representatives of this Express in London, are men of intelligence, and will do their utmost in meeting the views of Exhibitors.

LONDON COMMISSIONS.

For articles not requiring extraordinary time for arranging, $1,00 a lot.
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Persons desiring further information, or authority to exhibit, may address their applications to

J. W. HOYT,
Com. for Wis. to Internat. Ex.

LITERARY NOTICES.

Several interesting works lie upon our table which must wait for notice until our next issue.

Our exchanges, too, owing to the crowded state of our columns in this, the last form of the FARMER, will be kind enough this time to take the will for the deed.

In addition to all our regular agricultural and horticultural exchanges, which are always so welcome, and several of which are deserving of highly commendatory notice, there are several of a kindred character, or purely literary, which we cordially admire, and had intended to notice in this number.

Hunt's Merchants' Magazine, the *Scientific American*, the *Phrenological Journal and Life Illustrated*, the *Home Journal* and *The Independent*—all published at New York—and the *Atlantic Monthly*, published at Boston, are eminently worthy of commendation, and of the most liberal patronage of the American people.

NOTICES OF NEW ADVERTISEMENTS.

Our advertising columns are filled with a great variety of matter especially interesting to our readers. Attention is called particularly to new advertisements of the BLOOMINGTON NURSERY, the MADISON MUTUAL INSURANCE Co., and of the WISCONSIN FARMER.

[ADVERTISEMENT.]

Columbus Nursery.

BATEHAM, HANFORD & Co., offer for sale an extensive assortment of FRUIT TREES—Apple, Pear, Peach, Plum, Cherry, &c., both standard and dwarf trees, of the most approved varieties, much better and cheaper than eastern grown trees, for western planting.

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Selections will be made when desired, by A. G. HANFORD, with especial reference to the climate of Wisconsin.

Orders should be directed to BATEHAM, HANFORD & Co., *Columbus, Ohio.*

THE WISCONSIN FARMER.

J. W. HOYT, : : : : : : : : : : : EDITOR.

VOL. XIV. MADISON, FEBRUARY 1, 1862. No. 2.

Suggestions for the Month.

Farmers, dont forget that winter is especially the season for increasing your stock of knowledge. Provide yourselves with valuable works on the different branches of Agriculture and study them during the long evenings. Review the back volumes of the *Farmer*, and thoroughly post yourselves up on all matters in which your practice may have been at fault in the past. Be regularly at the meetings of the Club, if you have one; if not, organize immediately.

Take more pains than heretofore to ascertain whether your children are making good progress at school. If not, learn why and endeavor to remove the cause. An occasional visit will stimulate them, encourage the teacher and have a tendency to right any wrongs there may be on either side.

Mature your plans for next season in relation to the rotation of crops. The folly of growing the same crops on the same land year after year has been practiced long enough.

Clover is a great fertilizer and cleanser of soils long abused, give it a chance at your old wheat fields.

Look to your stock. Provide all with good food and water in sufficient quantity, and don't feed on the ground in the old slovenly way, but in racks. Separate the weak and the breeding animals from the rest and give them extra attention. Warmth savee food; remember that. Read article on feeding and fattening of stock in this number.

Manufacture as much manure as possible out of the straw that would otherwise go to waste.

Save a good stock of ice. See article in mechanical department.

Prepare your summer's pile of good wood.

Get your fencing ready to lay up early.

Look to the implements and farm machinery.

If not of the best patterns, sell and buy the best. Put all in good repair.

If you intend planting fruit-trees make an early order for *hardiesi* varieties. See list of apples in Horticultural Department.

Sugar and Sugar-Making.

The Rebellion has awakened new interest in the Sugar as well as the Cotton question; and the enquiry, "What shall I eat?" is only secondary to that other—"Wherewithal shall I be clothed?"

As to bread, there need be no anxiety on the part of the people of the North. Our granaries are full, and the soil is ever ready to yield its rich products in response to the demands of the energetic husbandman. The luxuries, however, are not quite so sure. The tariff on tea and coffee renders their enjoyment difficult if not impracticable on the part of many, and the present commercial non-intercourse between the North and South must deprive us, at least for a time, of the large importations of sugar which we have been accustomed to receive from that part of the world. As a people we have been accustomed to use large quantities of saccharine matter in various forms, and to be deprived of it now, would be something of a hardship certainly.

But is there really any need of our being so dependent on the South and the West Indies for our sugar? May it not be possible for us to so develope our own resources as to acquire

a sort of independence in respect to this most delicious and wholesome article? We think it is.

Not that the North can by any plan hitherto suggested, become a great sugar-producing country like the South, any more than it can become a cotton-producing country as is claimed by many enthusiasts; but that by the cultivation of Sorghum and the taxing of our forests we may produce a very large proportion of the sugar consumed by us.

The sorghum question has already and repeatedly been discussed; it remains therefore to consider in this place, and at this season,

THE MANUFACTURE OF MAPLE SUGAR.

The sugar maple is as much confined to the North as is the common sugar cane to the South. Indeed it flourishes nowhere except in a rather cold climate; doing best and yielding the largest return of sugar near the northern limit of the North Temperate zone. Perhaps the forty-second and forty-eighth parallels of latitude may be considered its practical limitations.

In New England, New York, Northern Pennsylvania, Ohio, Indiana, Minnesota, Wisconsin, Michigan, the Canadas, Nova Scotia and New Brunswick it flourishes well, and in some of those sections, unlike other species, it is found oftener than otherwise forming masses of woods, almost to the exclusion of other trees; and in portions of the country vast forests, comprising hundreds of thousands of individual trees are formed of this maple. Dr. RUSH at one time estimated that in Northern New York and Pennsylvania alone, there were not less than ten millions of acres which produced these trees in the proportion of thirty to an acre. In most cases, however, the sugar maple occurs in what may be called groves—a fortunate circumstance, as thereby much of the labor of gathering the sap is saved.

In Wisconsin, these groves are not very widely and generally distributed, and yet the aggregate number of trees must be very large. They are found in all the heavily timbered hard-wood districts, and not unfrequently in portions of the State characterized as "openings."

THE QUANTITY OF SUGAR PRODUCIBLE

Varies with the locality and season. Groves somewhat scattering, and on the low rich lands produce most sap, though it is hardly so sweet as that produced by trees growing sparsely on the high lands. The most favorable season is that which succeeds a uniformly cold and dry winter. Four pounds per tree in one season is a large average yield, though much larger amounts are sometimes made.

THE SEASON FOR TAPPING

May be said to commence in February, though the 1st of March is usually about as soon as the work can be economically commenced.

THE BEST MODE OF TAPPING

Is with the auger, as the end desired is just as effectually attained as with the gouge, and with much less damage to the life and vigor of the tree. Indeed the *chopping* into the tree is a sort of barbarity that ought not to be practiced unless it be the desire of the owner to remove the trees entirely; in which case it would undoubtedly be economy to make the best of them and so *girdle* them with the axe and gouge.

A "three-quarter" auger is as large as should be used, and it should not perforate the wood of the tree to a greater depth than half an inch, as experience has shown that this depth will secure the greatest flow of sap. A half inch auger will serve the purpose of tapping just as well and will of course do less injury. Cheap and convenient spouts may be made of the common alder; or if these cannot be obtained they may be made from any soft wood by boring and splitting.

TUBS OF PINE OR CEDAR

Are enough better than troughs to pay the expense. They should have strong hoops and be well taken care of during the season when not used. The best shape is that of the firkin—smaller at the top than at the bottom—as they will be less liable to fall to pieces from shrinking, and expose less surface to dust, falling leaves and other sources of dirt and consequent discoloration. Washing and thorough scalding of the old tubs before use is very essential to

the good quality of the sugar. They may be of different sizes for different sized trees, but for large trees they should hold at least fourteen or fifteen quarts.

THE GATHERING,

If from a large number of trees, cannot be economically done without a horse and sled.—The old fashioned sap-yoke is of service where the grove is small and the "camp" centrally located. A pine tub, tapering towards the top, with an opening near one side of the head large enough to admit a pail, and provided with a tightly fitting lid is most convenient, perhaps.

GOOD VATS,

For holding the sap when brought to the "works," may consist of either large cooper's casks or long troughs made by tightly grooving together wide two-inch planks. In either case they should be kept covered and occasionally scalded out to prevent the souring of the sap. It is also important that they be conveniently located so as to receive the sap from the cask in which it was gathered, without the labor of dipping. If lower than the sled, the sap may be drawn off through a faucet; if not, a siphon or bent tube, like the one shown in the annexed cut, will be found to answer an admirable purpose. Such a siphon, two inches in diameter and of sufficient length can be made by any tinner for less than a dollar, and it will pay for itself over and over many times during one season, in the saving it will make of time and labor. The short arm of the siphon should be long enough to reach within half an inch of the bottom of the gathering tub, and the other two to six inches longer according to the required rapidity of flow.—With a simple tube of this sort two inches in diameter, tapered to one and a half inches at the outlet and with four inches difference in length of arm, an hundred gallon tub may be emptied in five minutes; during which the gatherer may occupy his time in renewing the fire, attending to his kettles or evaporating pans, or anything else that requires to be done.

LOCATION OF THE CAMP.

A slightly elevated piece of ground near a running stream is the most desirable location.—Even if such a site cannot be found in the most central portion of the "sugar orchard" it is better to select such a spot, though at the sacrifice of a little more travel in the gathering. If the surface gently inclines, all the better, as it will afford a better opportunity to draw off the sap, first into the vat and secondly into the kettles or pans.

BOILING APPARATUS, ETC.

The old fashioned potash kettles hung by a chain to a pole by the side of a log will answer the purpose if nothing better can be had. We have used them in primitive times ourself, until arches &c., could be provided, and think we made some as good sugar in that way as ever delighted the palate of the most fastidious lover of sugar. But then it is certainly not the most convenient or economical way. Hollow sheet iron evaporating pans, some seven feet long and three or four in breadth are the most convenient and accomplish the work with a rapidity unknown to the use of the kettle.—It is not unlikely that the Sorghum evaporating pans now coming into use could be made to answer a good purpose on a small scale.

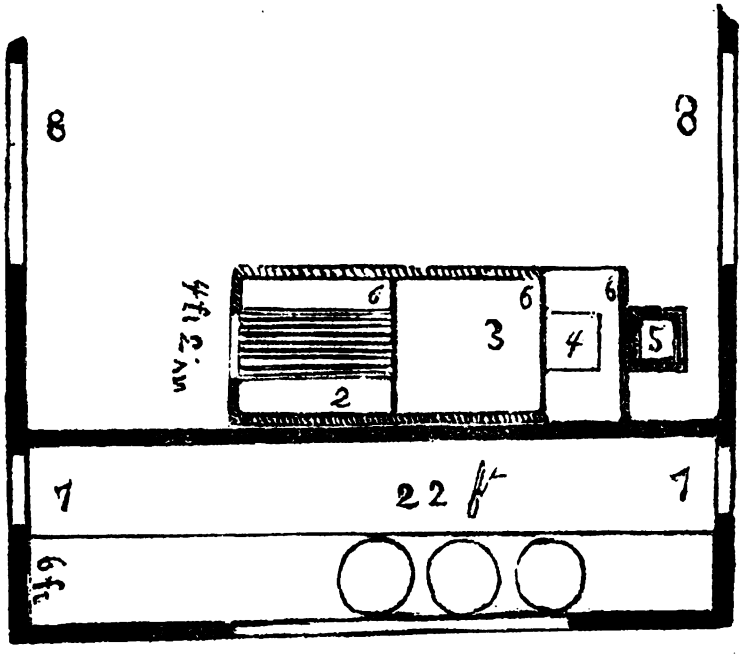
THE ARCHES

May be built partly beneath the surface or entirely above, according to circumstances of locality. Usually those built about 2½ feet above ground are more convenient and afford a better draft. The foundation should be laid in trenches, deep enough to escape the frost and built of good substantial stone or brick.—A heavy bar of cast iron should be laid across the open end at the requisite height for holding up the wood. The chimney need not be more than one two or three feet high according to the length of arch.

A shed over the "works" is indispensable to the comfort of the manufacturer and to the cleanliness of the sugar.

To those who have large "orchards" and

manufacture extensively, the following plan of shed and apparatus devised by Mr. Bassett of Massachusetts for the readers of the *New England Farmer*, will be of interest.



The shed is 22 feet wide, entered with a team by large doors at 8,8. The boiler occupies a space 50 inches wide; 1 is the doors to fire grate and ash pit; 2 and 3 the places for the boiling pans; 4, the place for the heater; 5 the chimney; 6, heavy cast-iron bars across the arch for the pans to rest on; 7, small doors opening on to a platform five inches higher than the top of the arch, and behind which is another platform a foot higher still, upon which are placed the store tubs with a long door opening upwards behind them for unloading the sap from the gathering tubs.—The space beyond the doors 8,8, is used for storing wood, tubs, buckets, &c., and may be as large as desired.

The coming sugar season bids fair to be one of the most favorable that we of the Northwest have enjoyed for years, and as the present and prospective price of sugar warrants the giving a larger share of attention to this incidental branch of farming than ever before, it is hoped that all who have the trees will make the most of their time and means while the season lasts.

Swamp Lands for Grass and Cranberries.

Mr. Editor:—In my last communication I gave some of my experience in raising grass and grass seed. I will now, with your leave, give my opinion of the value of mucky swamps for raising grass and cranberries.

From my observations I am led to consider those lands of this kind, that have descent sufficient to enable you to drain them, the very best lands for grass that we have among us.—One of my neighbors, Capt. James Eaton, has a swamp of this description that he has been draining. He has sown a small piece of it to grass, and it produces from two to three tons per acre, without any manuring or dressing. He bedded up about an acre of it last spring, and sowed it to barley without any dressing. I assisted him in harvesting it in the fall and found it the stoutest crop of the kind, that I ever saw. He also planted some beets and cabbages on one end of one of the beds, and they grew as rank as they would in any rich garden.

I have some swampy land on the island which cleared some of the fire that I mentioned in my last. They were burnt very lightly. I

sent to Boston and purchased a bushel of fowl-meadow grass seed and sowed over some of it. As I was rather short of seed I sowed it as thin as possible. Next year there grew from two to three tons per acre. The surface was so rough I could not mow it, so I reapt off the tops and thrashed out the seeds and had fifty bushels. But the land laid so flat that I could not drain it, and during the next winter it all died. I then bought a bushel of cranberries and sowed over a part of the swamp. A very few of them, however, came up. Where they did take they grew first rate and are just beginning to bear.

I have flowed a number of these swamp spots which I mean to clear up and set over to cranberry vines. Some individuals in this section of the State, are doing well by cranberry culture. I have a small patch near home, where I took off the grass turf and set out vines. They are beginning to bear very well. Last fall I gathered seven bushels from them, but not more than a tenth part of them bear, as yet. This proves to me that they are among the most profitable vegetable or small fruit that we can raise, where we have good muck swamps. It will cost no more to clear up one acre for cranberries than for corn, and after they get well to bearing they would produce from four to five hundred bushels to the acre.

Capt. Levi Coggins, of Surry, has a small cranberry patch from which he has gathered eighty bushels in one season. He informed me that his wife went out one day and sat down on a bench and picked ten quarts without moving from her seat. He had the curiosity to measure the ground which she had picked over and on calculating found that the yield was after the rate of eight hundred bushels per acre. I sold some of the seven bushels that I raised, for three dollars per bushel. I am told that they bring four dollars in Boston. Cranberries do not require a very deep soil of mud or muck, but they need to be flowed through the winter and not to be fed off by any animal. —JOHN P. CARTER, *in Maine Farmer.*

BREAKING ROADS IN THE SNOW.—One of the best methods is to bind two light plows upon the same side of the two runners of a sled—if right hand plows, on the right; if left hand, on the left—and then drive where the road should be made. The two furrows will make nice foot paths for the horses and the runners of the sled.

☞ The best time to cut timber is about the first of February. At this season the timber is free from sap. I have taken up posts cut at this season, which had been set twenty years, and they were perfectly sound.—JOHN JOHNSTON.

Maize and Tobacco.

The Indian Corn looked over the fence,
And what do you think he spied?
A field of tobacco, just ready to bloom,
And stretching in lordly pride.

To the broad-leaved neighbor at once he called,
In accents loud and clear,
"I thought you belonged to a summer clime;
Pray, what are you doing here?"

So then, with a haughty air, replied
That plant of power and pelf,
"You are pleased to ask of my business, Sir—
What do you do, yourself?"

"I feed the muscles, and blood, and bone,
That make our farmers strong,
And furnish bread for the little ones
That round their tables throng."

"I move in a somewhat loftier sphere,"
The foreign guest rejoined,
"As the chosen friend and companion dear
Of men of wealth and mind.

"I'm the chief delight of the gay young spark:
O'er the wise my sway I hold;
I lurk in the book-worm student's cell—
In the dowager's box of gold.

"Thousands of hands at my bidding work;
Millions of corn I raise"—
He ceased to speak, and in angry mood
Responded the tasseled Maize;

"You're in secret league with dyspeptic ills—
A merciless traitor band;
With clouds of smoke you pollute the air,
With floods of slime, the land.

"You tax the needy laborer sore;
You quicken the drunkard's thirst;
You exhaust the soil—and I wish you'd go
To the place whence you came at first."

Sorghum or Imphee?

WHITEWATER, January 16th, 1862.

ED. OF WIS. FARMER:—Can you inform the readers of the *Farmer*, through its pages, which of the many varieties of Sorghum or Chinese Sugar Cane is best adapted to cultivation in Southern Wisconsin; also where the seed can be obtained?

The time has evidently arrived, when if we would enjoy the luxury of sweetening, we must produce it ourselves or do the other more difficult way, pay roundly for it. I for one, am of the opinion that Wisconsin is capable of supplying herself with the common varieties, looking abroad only for the refined article of sugar. In accordance with the above conviction, I commend this to you, hoping that others may be of the same mind, and that the Fall of 1862 may verify the same. I remain Yours truly, A SUBSCRIBER.

ANSWER.—Cultivators of the two varieties of sugar cane agree, it is believed, that the Chi-

nese variety makes the best syrup, while the African or Imphee ripens about twenty to thirty days earlier. We know of no one in this State who is already provided with seed of the Chinese variety, though it is presumed that most dealers in seeds and implements in all parts of the State are making arrangements to import it for their customers.

Of the Imphee, Mr. J. C. PLUMB, of this place, has a considerable quantity, grown by himself, which he intends to offer for sale.—ED.

How to Get a Bushy Hedge.

Though our failures have been many, we are still of the opinion that the hedge question is not yet exhausted. The scarcity of timber in some localities renders its affirmative decision of very great importance, and it may yet be hoped that some hedge plant will ere long be found that shall furnish our prairies with satisfactory living fences. The Osage Orange is certainly not the plant for our cold climate; but it is not so certain that the common thorn, the buckthorn, or something else will not prove sufficient, *if properly cultivated.* We say "properly cultivated," because we have long been convinced that no plant could entirely succeed if cultivated in the ordinary way.

Touching this subject, the following from the *Gardener's Monthly* so ably discusses certain causes of failure which we had thought to suggest, that we copy it into the *Farmer* entire:—

Most attempts at hedging look as if the owners would like to invert them. The top is thick enough where thickness is not needed; but between there and the base there is nothing to strengthen the moral principles of the passing school-boy, as he eyes the Pippins and Spitzenburgs enclosed therein.

As usually managed, hedges are costly and unsatisfactory affairs. Properly treated, they are the least expensive of any kind of fence, and cheaper, by far, than the great majority of even those who have "faith in hedges" believe.

All hedges designed for protective fences, are, in the first place, too high and to narrow at the base. No hedge need have more than a four feet rise, as it will do no harm for your neighbor's horse to see what crops you are growing; but it should be between three and four feet thick ot the base, so that, unless he has served in the cavalry under some bold dragoon, and "knows bayonets," he may have no inclination to try the strength of spines of hawthorns or osage-oranges.

Before planting, sort your plants into three lots; that is, into strong, stronger, and strongest, taking them first up by the handful, and cutting off their heads to within nine or ten inches of the collar, or the point where the root portion commences. This is done with a sharp hatchet on a block of wood. The tap root is shortened at the same time. If you plant them any way, just as they come from the nursery, they will grow only in one way, which, Darwin says, is nature's way. In the "struggle for existence," those which get the start will crowd eut the weaker ones, and your hedge may have enough unevenness to satisfy any lover of pastoral poetry, but will fall short of your matter-of-fact expectations. After sorting, you can give the weaker choice the best chance of good soil, the next selection a little better, and the next the worst soil, if any such you have.

In planting, set them at an angle, as in the following sketch, setting the plants 12 inches

apart, in two rows, quincux fashion, which will place each plant about eight inches from the other. By thus sloping the plants, the shoots, as they rise perpendicularly, will give you a miniature forest, with every little rising trunk, but a few inches apart,—so thick, that should you get so poor as to have to give up taking your favorite agricultural journal, and, consequently, forget the proper after treatment of the hedge, though you may still have the usual crow's nest topped hedge for your neighbor to laugh at, there will be, at least, enough stems at the bottom, the result of your subscription to the volume that contains this article, to prevent his pigs from getting in after your crop of little pumpkins.

If your hedge grows as well as it ought to grow, by the middle of June it will have made shoots two feet in length. Then get a sharp scythe, and go along the whole line, cutting off six inches of the young growth the whole way. They may be cut flat, as in mowing a piece of meadow ground. It will occupy but a few minutes for every hundred feet, and will be all the care required for the first year. The sides must not be touched for this or any following year, until the required width has been reached—three or four feet. If the soil be good,

however, and the plants strong, it will nearly do this the first year.

The second year, the plants in the middle of June, will have reached the four feet we propose, when it should again be gone over with the scythe, first cutting off the young tops sqaure to the desired height, and then cutting the sides, so that the apex is wedge-shaped, like an inverted V (Λ). By cutting in the hedge so sharply and severely towards the apex, the strength of the plant will be thrown into the branches at the base, and enable them to push widely end freely.

Everything, it will be seen, depends upon the time and manner of pruning. It must be cut while the growth is active, in order to throw strength into the growing side-shoots; and it must be cut in a conical or wedge shape, in order that the light may be easily admitted to every part of the hedge's surface.

The third year after the hedge is "well set" —a technical term for filled up well from bottom to top—the wedge shape form may be modified to the truncate cone or half-oval, which is more pleasing to the eye.

Sometimes a few strong shoots will again push after the midsummer cutting. These should be cut away at the fall of the leaf, or they will interfere at the annual scythe cutting, on which the principal cheapness of our style of management depends.

We have not said anything of preparations for planting, the best mode of performing the operation, hoeing or after-cleaning; as, however well these may be performed, the permanent success ond cheapness of management of the hedge do not depend on them, and are, therefore, not within the object proposed to ourselves in the present chapter.

How it Pays to Take the Farmer.

MR. EDITOR:—Enclosed is one dollar for the FARMER the ensuing year. It seems somewhat strange to me that our agricultural friends will deprive themselves of the pleasure and profit of reading the FARMER.

Since I have lived in the State I have been a reader of the FARMER, and of late have been looking over matters, to see if it pays. Quite a number of ideas, productions and machines have been introduced to my notice by the FARMER, to my pleasure and profit. I will name an instance or two of the many that might be mentioned. The Peach Blow Potato was introduced to my notice by the FARMER. I sent off thirty miles, late in the spring of 1860, and got half a bushel of them by paying one dollar. Planted them late, on new breaking; discovered nothing special at digging, except a rather small crop, as was expected. In the spring of 1861, I planted them by the side of several varieties that are called good, and the yield was from one-fourth to one-sixth greater than the other kinds, and they are so much better than the others that my family do not want any other kind for table use. I think I have made as much by the Peach Blow Potato as the FARMER cost me.

I now have six volumes of the FARMER, which I intended to have bound, but as it was neglected, I sewed each volume together with a large waxed end, and these old volumes afford a very favorable opportunity for reference to almost any subject in the line of agriculture. I would not now take the subscription price for the old volumes, if I could not get others of the same kind. IT PAYS TO TAKE THE FARMER.

DAVID SEARS.

MONTICELLO, Green Co., Wis., Jan'y 2d, 1862.

Balance the Accounts Now.

An editor, who unfortunately does business on the credit system, and is therefore compelled to keep a standing dunning notice, unpleasant to both himself and his readers, thus logically nudges his readers: "*We* don't want money desperately bad, of course not, but our creditors do; and no doubt they owe *you*. Now, you pay us, we'll pay them, and they'll pay you. We shall all then feel better to begin the year, and no one will be the poorer. Let us begin square all round." This is not bad advice for others than delinquent subscribers.

Now is the time to do it. Close up the year by settling with everybody. Pay the butcher, shoemaker, blacksmith, doctor, minister, every body. Has there been an exchange of labor, of teams, seeds, implements, etc., among neighbors, and the accounts left unbalanced? Before the New-Year comes in, let them be adjusted. If impossible to get the ring of creditors broken into, at least let there be a looking over of accounts, and the actual balance be ascertained. One can meet his neighbors with a better countenance, if the actual indebtedness has been agreed upon, and acknowledged, than when there is an imaginary large debt somewhere concealed in the long "running account." "Short settlements make long friends," is a good old proverb. A man should know, at least once a year, precisely how he stands with the world. If he is doing well, the knowledge will comfort him; if not, it will rouse him to renewed exertion, make him more prudent and cautious, and enable him to provide against emergencies.

A Missionary in the Right Field.

Messrs. J. W. Hoyt & Co.—Enclosed I send you four dollars, two to pay for the Farmer this year and next, and two to pay for the *Atlantic Monthly*, for 1862. Please send me a receipt for the same, and oblige

Yours truly.

P. S.—I recieved a letter from you on Saturday, asking me to do something for you in the way of getting up a large club for the Farmer. I should be very happy to do so, if I could, but it seems difficult at present. The farmers here most all plead poverty; still the most of them pay enough every three months for tobacco to pay for the Farmer a year, at least. I have been preaching to them for the last seven years, every opportunity, that it would be for their best good to quit the use of that poisonous, filthy weed, and spend their money for the Farmer, or some such purpose. I speak to them from experience, too, having tried it for the last fifteen years myself, and it has furnished me with from four to seven weekly papers, besides the Farmer, and money saved at that; and then there is the happy thought that I am not contributing to poison God's pure air, when I walk the streets these beautiful mornings and evenings. But it is hard converting them, and I am almost tired of talking to them. Suppose you write and publish an article on the injurious and pernicious effects of tobacco, in the February number, and I will get my neighbors to read it, and perhaps bring some of them over to our side. I wish every farmer in the State, that could, would subscribe for the Farmer. Only think of a farmer doing without a paper of any kind himself, and bringing up a family of children in the same ignorance of what is going on in the world around them. But so it is with many, and so it will be, I suppose, in spite of us. I will get a few more subscribers, if I can, and send in their names with "the needful."

A Well Wisher to the Farmer.

Sauk Co., Dec. 30, 1861.

Remarks.—The above communication hits the nail so directly on the head, that we deem it of more value than the article which the author proposes for us, and accordingly publish it just as received. The man who, for the sake of gratifying a perverted appetite of any kind is willing to deny to himself and family the bread of knowledge, is a heathen, and the fittest subject in the world for missionary effort. We hope "A Well Wisher" and others who appreciate the mission of the Farmer, will persevere in well-doing.

Progress of Agriculture in France.

Since 1815 her foreign trade has quintupled, her manufactures have quadrupled, her agriculture has doubled its produce, under the influence of those three great principles of peace, justice and freedom, which are the eternal counterpoise of the hateful effects of war, violence and despotism. Eighty thousand miles of roads have been opened in the country; 10,000 miles of railway have been completed, or are now in progress; canals have been made, rivers rendered navigable, ports and docks constructed. The progress of rural economy, especially from 1815 to 1847, kept pace with this great movement, and has not been sensibly thrown back by the unfavorable and extraordinary courses of the last few years, in spite of bad seasons, the potato disease, the vine disease, the mortality of the silk worm, and the disturbed state of the political world. The tenure of land has of course been modified to a considerable extent by the laws of succession established in France, but this change is less rapid and complete than is commonly imagined in England. Taking the area of France at 45,000,000 of hectares, M. de Lavergne computes that one-third of the soil is still held by 50,000 large proprietors, possessing an average of 75 acres; and the last third by 5,000,000 of small proprietors, possessing an average of 7 acres. This calculation is obviously merely approximative; but it is certain that there are in France 16,000 land owners paying 40*l.* a year and upwards in land tax to the State, and about 37,000 land owners paying 20*l.* to 40*l.*

In the allotment of the soil it seems that since 1789 about 5,000,000 of acres have been added to the productive area of the country; vineyards and orchards and meadows have considerably increased; woods have diminished. In tillage cultivation the fallows have decreased by one half; the growth of wheat, barley and oats has increased a third; that of rye and the inferior kinds of grain has diminished. Water-meadows have tripled in extent, and the cultivation of roots, which was hardly known in 1789, now covers 5,000,000 of acres. But the quality of the crops has risen even more than their extent. The quantity of wheat

actually grown has nearly doubled; live stock has also doubled in number and value; the silk crop and the rape oil crop have quintupled. The production of home grown sugar has come into existence, and the growth of wine has also doubled. From these facts M. de Lavergne concludes that the total value of the agricultural produce of the empire must now exceed 200,000,000*l.* sterling, or at the rate of about 6*l.* per head of the population. He also infers that rents have risen since 1789 in the proportion of 12 to 30; farmers' profits in the proportion of 5 to 10; outlay in that of 1 to 5; taxes on land and dues have diminished in the proportion of 7 to 5; and laborer's wages have doubled."

The 200,000,000*l.*, at which the annual value of French agricultural products is nowe stimated, is 75,000,000*l.*, or 60 per cent. over the estimated annual value of the same interest 50 years ago; and even our own agriculture, we presume, can hardly exceed so rapid a movement as that. We quote the following local pictures and particulars:

"Large fortunes have at all times been made by agriculture in the neighborhood of Paris, but more especially in the last half century. Some of the farmers have their million of francs, many more their 20,000*l.* or 30,000*l.* Farming is here an art, employing large capitals and returning large profits, especially in that district called France *par excellence*, because it formed part of the original domain of Hugh Capet. Large estates are here also less divided. More than 3,000 of the rural assessments exceed 1,000*f.*, and there are many land owners having from 2,000*l.* to 4,000*l.* a year. —*London Ag. Gazette.*

The Manure Yard the Farmer's Meal Chest.

Two from two leaves NOTHING! All the streaks of good fortune in the world can't upset this simple proposition. But then is it equally true, that one from ten leaves but nine. And so it will prove with our rich soils. The one-tenth loss may not be perceptible to the farmer who shuts his eyes to the gradual deterioration of his soil, but the time will surely come when he will lament that he has sold off or thrown away the cream and has nothing but bonny clabber left! FARMERS, SAVE YOUR MANURES!

☞ The Dioscorea, or Chinese Potato is said to be growing in favor in France, and gradually becoming common in their markets.

STOCK REGISTER.

Abuses of the Horse—No. 4.

SPAVIN.

"Any bony growth or bony enlargement, however small, which is to be seen or felt upon the inner side or the hock is a 'spavin.'" Usually the enlargement is produced by a hardening of the ligaments or a transformation of them into bone. Sometimes the disease only partially impedes that grace of motion which characterizes the action of the perfect limb, and again it becomes not only a deformity, but produces a positive and very serious lameness.

As to cause, it is, in most cases, traceable to strains occasioned by the horse being put to an unreasonable test of his speed, by his being too severely taxed in the way of jumping over ditches or carelessly-thrown-down bars, or compelled to draw too heavy a load.

Detection in the advanced stages is not difficult, as the enlargement and the lameness will show for themselves. But in the earlier period of development it often requires the closest scrutiny for its detection. In the language of Mayhew, "there are four points of view to be taken: behind the animal, though always at a safe distance from the heels; in front, but not close to the horse, yet so near that the examiner must bend to view the hocks between the fore legs; and from both the sides. In all

these positions it is prudent now to elongate the distance, and now to approach nearer, then to move the head about, and occasionally to step to the right or left. In short, it is advisable to get as many different points of sight as possible; for in one, and only in one, may a spavin be detected on the hock, which seen from any other point shall look perfectly clear. At the same time, from every point, care should be taken to compare one hock with the other;

if the slightest difference in point of size can be detected, it is fair to suppose one is enlarged by the commencement of disease. Any indication of this sort is always to be sought for. The disease may have just begun; but it is impossible to say where it may stop.

In examination for spavin, however, allowance should be made for the age of the horse. Spavins in young horses may be regarded with alarm; in old animals, they generally are perfected, and, however large they may be, probably they will grow no bigger; on the contrary, as the years increase, they are usually diminished, being absorbed; but the bones, once locked together are never subsequently unloosed, although all the swelling should entirely disappear."

Having examined the part carefully with the eye, you may next proceed to a more close and direct inspection, taking the part in hand and deliberately feeling first one and then the other in the manner represented in the annexed cut;

always taking good care to keep so close to the horse's leg as not to be damaged, should he attempt to kick, and to have the person who holds the bridle hold up, at the same time, the fore leg on the same side.

Next comes the trotting test, which to the experienced eye, will surely discover the disease should it have advanced to the stage of impeding the free movement of the bones and muscles of the limb. And here one caution should be observed—to make this examination while the HORSE IS COOL, and not after he has been warmed up by action. If the owner objects to this you have a right to suspect that all is not right.

In trotting, if the horse does not lift his foot up easily and place it down squarely and firmly, but inclines to drag the toe so as to ware the hoof and shoe, this is evidence against his soundness.

"*The cure* for Spavin is good food and rest, —perfect rest,—such rest or stagnation as a healthy horse submits to in the stable. This enjoined for months, with the occasional application of a mild blister with the best of food, to enable nature to rectify man's abuse, will do more good, cost no more money, and occupy no more time, than the devilries usually adopted. * * * While inflamation exists, apply poultices, and well rub the part with a mixture of belladona and opium—one ounce of each rubbed down with an ounce of water—or place opium and camphor on the poultices; or rub the enlargement with equal parts of chloroform and camphorated oil. The pain having subsided, and the heat being removed, apply with friction some of the following ointment; it may reduce the disease by provoking absorption; at all events, it will check all further growth by rendering further deposit almost impossible:—

Iodide of Lead, ... one ounce.
Simple ointment, . . . eight ounces.
mix."

But after all, in this disease, as well as in most others, "*an ounce of prevention is worth a pound of cure.*"

HUMANITY AND HORSES.—The following remarks by Mr. Rarey are worthy the consideration of every man who has anything to do with horses: "Almost every wrong act the horse commits is from fear or mismanagement; one harsh word will so excite a nervous horse as to increase his pulse ten beats a minute. When we remember that we are dealing with dumb brutes, and reflect how difficult it must be for them to understand our motions, signs and language, we should never get out of patience with them because they do not understand us, or wonder at their doing things wrong. With all our intellect, if we were placed in the horse's situation, it would be difficult for us to understand the driving of some foreigner, of foreign ways and foreign language. We should always recollect that our ways and language are just as foreign and unknown to the horse as any language in the world is to us, and should try to practice what we could understand were we a horse, endeavoring by more simple means to work on his understanding rather than on the different parts of his body."

The Feeding and Fattening of Stock.

[From an Essay prepared for the Royal Dublin Society, by EDMUND W. DAVY, M. B., M. R. I. A., Prof. of Agriculture and Agricultural Chemistry.]

I shall now refer to some practical points, showing the influence which warmth, exercise, and light have on the quantity of food required by animals dependent on the foregoing principles, and then offer a few remarks on the food of fattening animals, and the proper ventilation of the places where they are kept.

1st. *Warmth.*—We have seen that the heat of the animal is inseparably connected with the process of respiration, which is merely a modified form of combustion, dependent originally on the food which is taken to sustain it.—Hence it follows clearly that there is a direct relation between the temperature at which the animal is kept and the amount of food required by the animal.

This is a point of great practical importance to the feeder of *stock;* for by exposing his cattle to cold they require additional *food* to keep up the necessary heat of their bodies; but, on the other hand, by keeping them sheltered and warm, he not only diminishes the quantity of food required to sustain the animal heat, and other functions of the body, but likewise causes a larger proportion of the food which is consumed to go to the formation of flesh and fat.

This is not only shown on scientific grounds, but is also proved by the practical experiments of various agricultural gentlemen. I shall only refer to the experiment of Mr. Childers by way of illustration.

That gentleman made a comparative experiment on two lots of twenty sheep each; the lots being as nearly equal in weight as possible. One lot was folded in an open field, and the other was placed under a shed in a yard. Both were fed for three months, viz., during January, February and March, upon as much turnips as they chose to eat, with half a pound linseed cake and half a pound of barley, together with a little hay and salt for each sheep daily.

The sheep in the field consumed the same quantity of food from first to last, viz., 19 lbs. of turnips daily for each sheep, along with the allowance of linseed cake, barley, hay, and salt, and increased in weight 36 stones 8 lbs.

Those under the shed consumed at first as much food as the others, but after the third week they ate 2 lbs. of turnips *less* each sheep in the day; and on the ninth week again 2 lbs. *less*, or only 15 lbs. instead of 19 lbs. each sheep daily; of the linseed cake they also ate about one-third less than the other lot, and yet they increased in weight 56 stones 6 lbs., or about 20 stones weight over the others.

Thus, the cold and exercise in the field caused the one lot to consume more food and form less flesh than those protected from the cold and not permitted the same amount of exercise. * * * * *

Hence we see the folly of those farmers who do not pay sufficient attention to the warmth of their stock, but suffer them to roam about in the open air, exposed to the most inclement weather.

The amount of exercise is another most important point to attend to. The more an animal moves about, the quicker it will breathe, and the more starch, gum, sugar, fat, and other respiratory elements it *must* have in its food; and if an additional quantity of these substances is not given to supply the increased demand, the fat and other parts of the body will be drawn upon, and the animal will become thinner; also, as before observed, every motion of the body produces a corresponding destruction of the muscles which produce that motion. It is, therefore, quite evident that the more the animal moves about, the more of the heat-producing and flesh-forming principle it must receive in its food. Hence we see the propriety of keeping our cattle in sheds and yards, and not suffering them (those particularly which we intend to fatten) to rove about, consuming more food, and wasting away more rapidly the various tissues of the body *already* formed, and making it more expensive and difficult to fatten them. We must not, however, run into the opposite extreme, and confine the action of the limbs *too much;* for whatever diminishes the ease and comfort of the animal will interfere with its thriving, and tend to retard its fattening.

For this reason we see why yards and close boxes are superior to stalls. When the animal is tied up, its movements are confined, and it gets in some degree cramped by its more or less fixed position; the muscles, too, for want of exercise, become relaxed, and in many cases unable to support the weight of the animal. The happy medium, therefore, seems to be, to give the animal sufficient space to turn about freely, and no more.

These latter observations, however, are more applicable to *fattening* than to *rearing* and *growing stock;* for in the latter you want them to have a good constitution, and to increase in their general size and muscles. These objects can only be attained by considerable exercise in the open air, and the use of a highly nutritious diet.

The *absence of light* also exercises a very great influence over the power possessed by food in increasing the size of animals.

Whatever arouses and excites the attention of the animal, and makes it restless, increases the natural waste of the different parts of the system, and diminishes the tendency of food to enlarge the body. To the rearers of poultry the rapidity with which fowls fatten when kept in the dark is well known; and direct experiment on other animals, whether by keeping them in the dark or by the cruel practice

of sowing up their eyelids, as is adopted in India, have led to similar results.

Absence of light, from whatever cause produced, seems to exercise a soothing and quieting influence on all animals, increasing their disposition to take rest, making less food necessary, and causing them to store up a greater portion of what they eat, in the form of fat and muscle.

There exists a great diversity of opinion as to what is the most profitable food for the fattening of stock; this, of course, will depend on a great variety of circumstances, as the season of the year, the kind of stock, the agricultural capabilities of the district, and a number of other circumstances.

As to the winter feeding of bullocks, some maintain that Swedish turnips and chopped straw or hay are the best materials for manufacturing beef; others, that a moderate quantity of oil-cake, about from 3 lbs. to 5 lbs. daily, according to the size of the animals, economizes the turnips and improves the quality of the meat and manure, so that they more than pay for the additional expense of the oil-cake.

Any of our ordinary kinds of straw, but still better that of beans or peas, when cut into chaff and moistened with a kind of soup made of linseed meal, has been given with great advantage.

It is thought that the expense of making the soup may be dispensed with by merely moistening the chopped straw with water, and then sprinkling over it about two pounds or so of oil-cake meal (wheat bran, or corn meal will likewise answer an excellent purpose.—Ed.) for two of the feeds, the other two being turnips and straw.

It appears that the error with many hitherto has been, that of using too large a proportion of roots in the feeding of their stock, which, by their containing so large a proportion of water (viz., about 88 per cent. and upwards), makes it difficult to combine with so great a proportion of fluid a sufficient quantity of more solid and nutritious food, consistent with the capacity of the stomach of the animal; for it must be ever borne in mind that it is not the quantity of food which we put into the stomach of an animal which accomplishes the object of enlarging its size, but that which is thoroughly digested and assimilated.

In order to effect this object, and make the food more nutritious and condensed, bruised corn, beans, or oil-cake have been added to the turnips and hay or straw, the great constituents of the food of stock.

* * * We may lay it down as a principle in the feeding of our cattle that the richer and more nourishing the food we give them, the better will be the meat they form, and the more valuable the manure they produce.

This latter, the making of manure, is a point of much practical importance, and many farmers look to it as the chief source of profit, even from an expensive system of feeding.

But whatever system of feeding we adopt, physiology and chemistry have shown that it must contain the five following principles of nutrition, viz., the *saccharine*, or those substances resembling sugar; the *oleaginous* or oily; the *albuminous*, or those substances resembling the albumen or white of the egg; the *saline* or alkaline and earthy salts; and lastly, the *aqueous* or watery, all of which we find in suitable food, and those substances which are regarded as most nutritious are those which contain a proper admixture of each, as, for example, milk, bread, or meat: they each contain the five necessary principles of nutrition.

Hence we see that the food required by an animal, to keep it in health, must of necessity be a mixed kind, and the skillful feeder of stock will not employ any one description of food alone, but will use a variety of alimentary substances. He will also occasionally change the kind of food, or alter the proportions in which he gives the different substances. He will also adapt the quality of food to the age of the animal, and the purposes for which it is fed. For although every crop which the farmer raises contains all the substances required by animals, yet some contain more of one kind of matter, and some of another; so that it requires some attention on the part of the feeder of stock to give that mixture of food which will contain the five principles of nutrition in that proportion best suited to the age and condition of his stock.

Ventilation.—But all systems of keeping and feeding stock will fail, and be attended with great loss to the agriculturist, if proper attention is not paid to ventilation.

Cattle have been kept in sheds and houses so badly constructed as regards the supply of air, that they have been compelled to breathe an atmosphere loaded with deadly poison, instead of being supplied with pure air.

I need hardly say that during the respiration of animals a very large amount of carbonic acid (a most deadly gas) is produced; thus, a man in twenty-four hours produces about 2½ lbs.; a cow upwards of 21 lbs.; and a horse upwards of 24 lbs.

It has been ascertained by direct experiment that air containing 5 per cent. of this gas acts as a poison on animals.

By this gas occurring in much smaller quantity in air—as, for example, 1 per cent.—will *gradually* injure the health of animals.

In nature such attention is paid to this circumstance, that, though enormous quantities of carbonic acid are continually being sent into the atmosphere from a great variety of sources, still a number of circumstances are made by Infinite Wisdom to combine together to prevent the accumulation of this noxious substance, so that its average quantity in the atmosphere does not exceed about 2 parts in

5000 parts of atmospheric air, a quantity too minute to exercise any injurious action upon animals.

Ill ventilation, therefore, produces a two-fold injury: the life-giving oxygen is withdrawn, and not returned in sufficient quantity, and the poisonous carbonic acid is substituted for it.—The agriculturist must, therefore, pay particular attention to the sheds and houses where his cattle are kept, and have them so constructed that they will admit of a plentiful supply of fresh air, without, at the same time, there being any unnecessary draughts, which, by cooling the animals, would increase the quantity of food necessary to maintain their animal heat.

There are many other points of much practical importance, as, for example, the particular breed and formation of the animal, its age and condition, and the purposes for which it is fed, which exercise a considerable influence on the kind of treatment and food required; but these I must pass over.

Care of Cows before Calving.

The following extract from a Prize Essay on the "Rearing of Calves," by Thomas Bowick, published in the Journal of the Royal Agricultural Society, (Eng.), is applicable to all latitudes:

"The health and condition of the cow before calving, greatly influence subsequent results. A late milked, lean, raking, ill-cared for beast has oftentimes an easier parturition than those that are better furnished in these respects. But her after milking has a tale to tell of neglect somewhere; and the scraggy, "set" condition of the calf throughout its after course, often arises more from this cause than from any other. Hence, we would say, dry the cow a *fair time* before calving, and see that she has something better than barley straw to live on, else the calf and its owner will assuredly lose by it. But what is regarded as a fair amount of time for being dry? If a cow brings her first calf when from two to three years old,—which the majority probably do, though all will admit that it is too early—we should not care to milk her more than five or six months after calving. By this means she will grow and increase in size and value her second calf. But a cow from the fourth to the eighth year, if in good condition, need not be dry more than six weeks or two months before calving; *i. e.* if fed with a thoroughly liberal hand throughout the year. If more sparingly fed, or if the cow exceeds the latter age, then we should prefer her being dry three months before calving.—But, of course, there are exceptions to be met with, which cannot come under any general rule, such as the case of animals whose flow of milk is so strong as to continue almost up to the time when a new lacteal secretion commences."

South Down Sheep.

MR. EDITOR:—I am in frequent receipt of letters of inquiry concerning my South Down Sheep, advertised in the FARMER'last fall. In order to save from disappointment, as well as unnecessary correspondence, permit me to say that I sold the greater portion, retaining only a few select animals as the nucleus of another flock. I have disposed of an interest in these to Mr. James Davis, of Waukesha, who now has them upon his farm, some two miles West of the village. Mr. Davis is well known as a most excellent farmer and successful stock breeder. I feel confident the stock in his hands will maintain its reputation for superior excellence.

There are none now for sale, unless possibly a buck might be spared. I expect, however, to be able to furnish lambs by another fall.

A. G. HANFORD.

COLUMBUS, Ohio, Jan. 1862.

How to Feed Out Roots.

As root culture is greatly upon the increase in this country, and many are trying their first experiments with them this winter, we will drop a few hints upon their economical use. Nothing is more common than for beginners in the business to confine an animal entirely to the use of roots. They go upon the principle that you cannot have too much of a good thing, and give one to three bushels of turnips in a day. The change in diet probably sets the animal to scouring, and turnips are voted a humbug, when the humbug lies altogether in ignorance of the feeder. All animals like a variety of food in their diet, and hay or straw should always form a part of their daily fodder, no matter what else may be added. This course should be followed, whether we are seeking to make milk or beef, or merely to keep an animal in thriving condition. In fattening a bullock, a bushel or so may be given, according to size, making out the rest of the feed in hay, with some kind of grain or meal. In feeding milch cows, the same quantity may be given, mixing the sliced roots with the cut hay, at three meals daily. The meal will add more to the quality than to the quantity of the milk. Stock cattle with plenty of hay and roots will not need meal to keep them thriving. A good root cutter is indispensable in feeding out roots.

Then, as to the order in which the various roots should be used up, we always begin with the white, or soft turnips. These grow quickly and remain in their best condition but a few weeks. By the first of January they begin to

sprout, and lose something of their value. The ruta bagas and white French turnips keep well through the winter, and may be used at any time; carrots and sugar beets may be used as soon as they are dug. The mangel wurzel needs to undergo a curing process, and should not be used before February. They are excellent keepers, and will hold on until June. If fed out the first part of the season, they make the bowels loose, and lead to a false estimate of their value. Analysis shows that the mangel has nearly twice the nutritive matter contained in the Swedish turnip, and experiments in feeding confirm the results of the laboratory. They will yield from fifty to a hundred per cent. more in quantity, under ordinary circumstances, and are much the more profitable root to raise. We find our root crops enlarging from year to year, and that, perhaps, is the best testimony we can give of their value. Our list this year embraces several varieties of the white turnips, rock turnips and ruta bagas, yellow and white carrots, sugar beets and mangel wurzel.—*Am. Agriculturist.*

Bots in Horses.—The editor of the Indiana *Farmer* says he publishes a recipe for the third time, by special request, of those who have used it with perfect success. It is as follows:

"Take a tablespoonful, a little heaped, of alum, and the same quantity of copperas, pulverize them fine, and put them into a pint of vinegar. Pour it down the horse's throat. It will generally afford relief in five or ten minutes."

THE POULTERER.

Something about Hens.

A correspondent of the *N. H. Journal of Agriculture* says: "It is a pleasant recreation to tend and feed a bevy of laying hens. They may be trained to follow the children, and will lay in a box. Egg shells contain lime, and in the winter when the earth is bound with frosts or covered with snow, if lime is not provided they will not lay—or if they do lay the eggs will of necessity, be without shells. Old rubbish lime from chimneys and buildings is proper, and only needs to be broken for them. They will often attempt to swallow pieces as large as a walnut. I have often heard it said buckwheat is the best food for hens; but I doubt it. They will sing over Indian corn with more animation than any other grain.—The singing hen will certainly lay eggs, if she finds all things agreeable to her; but the hen is such a prude, as watchful as a weazel, and as fastidious as a hypocrite—she must, she will have secresy and mystery about her nest—all eyes but her own must be averted—follow her, or watch her, and she will forsake her nest and stop laying. She is best pleased with a box, covered at the top, with a backside aperture for light, and a side door by which she can escape unseen. A farmer may keep one hundred hens in his barn, and allow them free liberty to trample over his hay-mow, and set where they please, and lay if they please—and get fewer eggs than one who has a department especially for his fowls, and keeps but half as many, and furnishes them with corn, lime, water and gravel, and who takes care that his hens are not disturbed about their nests.

"Three chalk eggs in a nest are better than a single egg. Large eggs please them. Pullets will commence laying earlier in life when nests and eggs are plenty, and other hens are cackling around them. A dozen fowls, shut up away from the means of obtaining other food, will require something more than a quart of Indian corn a day. I think fifteen bushels a year a fair provision for them; but more or less, let them always have enough by them—and after they have become habituated to finding enough at all times, they take but a few kernels at a time, except just before retiring to roost, when they will fill their crops. But just so sure as their provision comes to them scantily, so surely will they raven and gorge themselves to the last extremity, and will stop laying. One dozen fowls, properly tended, will furnish a family with more than 2,000 eggs per year, and 100 full grown chickens.—The expense of feeding the dozen fowls will not amount to eighteen bushels of Indian corn. They may be kept as well in cities as in the country, and will do as well shut up the year round as to run at large—and a grated room well lighted, ten by five feet, or larger if you can afford the space, partitioned off from the stable or other outhouse, may be used as a henhouse. In the spring, (the proper season,) five or six hens will hatch at the same, and the fifty or sixty chickens give to one hen. Two hens will take good care of one hundred chickens, until they are able to climb their little stick roosts. They should then be separated from the hens entirely. They will wander less, and do better, away from the parent fowls.—Chickens put in the garden will eat up the May bugs and other destructive insects; but for my own part I much prefer four or five good sized toads; for they are not particular about their food, but will snap up ants and bugs of any kind, and will not, if a good chance offers, refuse the honey bees, but will down them in a hurry. In case of confining fowls in summer, it should be remembered that a ground floor is highly necessary, where they can wallow in the dirt, for they like it as well as the hog likes muck."

☞ Of all domestic fowls the common chicken is the most agreeable and profitable. Turkeys, Guinea and pea fowls are, in our way of thinking, "more plague than profit."

THE BEE KEEPER.

Random Thoughts Upon the Bee—No. 4.

DESCRIPTION OF THE QUEEN BEE.

In our last, we noticed the character of the bee, and the instinctive character of a swarm, or community, with its queen bee, the mother and ruler of the family, as an elective monarchy upon the death of the Queen, and a monarchy with a community of property, and nature's immutable instinctive laws as their only guide. This number describes the Queen Mother, as not formed by nature for labor, but formed only to rule and to breed. Her teeth and her wings are unfit for labor, being much shorter than the common bee's and the drones. The body of the Queen is much longer and slimmer than the other bees'; her belly of a bright yellow, and her back and wings of a brighter hue. The Queen possesses an astonishing fecundity, unequaled by anything in nature, except the fish; her body is replete with eggs. arranged in two ovaria, and prepared for the breeding season. These she deposits in her cells, so long as a cell is vacant, and thus lays the foundation for the young swarm. I say lays the foundation, but whether perfect or imperfect, is yet a question; the fecundity of the bee, after all the elaborate research of man, is yet a mystery unsettled by Apiarians, I am fully inclined to the opinion that the Queen knows no coition, that she is a virgin mother; and that her eggs are impregnated by the drones, after she has deposited them in the cells; but a whole host of Apiarians are opposed to the sentiment. Yet all agree in this, that the act of coition has never been discovered.* The Queen is not only the mother and Queen of the hive, but the soul of the hive. All is order whilst she lives, and all is confusion the moment she is dead; hence the reason why she seldom, if ever, ventures abroad, and why the whole swarm so cheerfully and affectionately support and protect her in the hive. Thus nature provides for their peace and order, by giving the Queen bee short and feeble wings for flight, and short and feeble teeth for labor, fitted only for her own feeding, together with a feeble sting and a mild temper, to shield her from exposure to violence and death. The Queen not only governs the swarm by their affections, but she leads them wherever she goes, and is their rallying point, both in and out of the hive, whenever she ventures abroad. All this, together with every movement and operation of the bee, is the result, not of their particular municipal laws, but of that general law of instinct, derived from God, their Creator, at their first formation. Much visionary speculation has infested the minds of Apiarians upon the fecundation of the Queen Bee, but all are agreed in this, that the cell in which the Queen Bee is born, is perpendicular and circular, whereas all the others are hexagonal and horizontal; and the Queen Mother knows what will be the offspring of the egg that she lays in the circular cell.—The cell of the drone is different still, being neither circular nor hexagonal, but irregular; this has again led Apiarians into much hypothetical disquisition, without demonstration, and all fraught with more theory than profit.

LITTLE PRAIRIE, WIS. W. H. MORRISON.

* Several apiarians claim to have observed this act.—ED.

PROFITS OF BEE-KEEPING.—Mr. R. H. Davis, a practical farmer, and one of our subscribers, who has a large and well managed farm at Larone, in Somerset county, furnishes us with the following notes relating to the profits of his small apiary during the year of 1860. In the spring of that year, Mr. Davis had four swarms, which being wintered through, he valued at five dollars each, or twenty dollars. These four swarms sent out during the season ten new swarms, eight of which were worth in the fall four dollars each, or thirty-two dollars. The other two swarms had not honey enough to winter on. It was, therefore, strained and sold, (thirty pounds), at ten cents per pound, which amounted to three dollars.—From the eight new swarms Mr. Davis sold two hundred and fifty-eight pounds of box honey, at twelve and a half cents per pound, amounting to thirty-two dollars and twenty-five cents. There was also some wax made, not taken into account. The old stocks of bees were reckoned at four dollars each in the fall, the same as the new swarms. This gives a clear profit of $67.25 from four swarms in one season. Who can give a better account from so small a lot of bees?—*Maine Farmer.*

A Successful Wintering of Bees.

As the season has come round when the careful apiarian looks well to the comfort of his little busy friends, the writer is reminded of his success last winter, and gives his experience for the benefit of those who have as yet no settled plans for the better preservation of their bees during the cold weather.

The writer's hives have movable combs.—The size is 14 inches every way on the outside, and each one is placed by itself upon a small platform, close to the ground. On the top of each hive are four holes for supers. The cover which goes over the supers, is large enough (say 14½ inches in the clear) to slip over the hive, and when the supers are off, covers the hive completely, and still leaves two or more inches space between the top of the hive and the top of the outside cover. (In summer, this same cover is raised sufficiently to place supers under, and rests upon cleats, which are screwed on to the four sides of the hive at any height desired.) Last winter, the writer opened one of the holes in the top of the hive, and tacked wire-cloth over it, and then put on the cover (or surtout, I call it). The opening made in the cover, to correspond with the entrance to the hive, when slipped wholly down, is not more than 1½ inches long, and ½ inch high. Thus, no great current of air can blow into the hive, and the moist atmosphere rises through the hole in the top, instead of collecting dampness in the hive.

The writer was never so successful in wintering his bees as the last season. Upon raising the covers in the spring, instead of a damp mass of debris, and large quantities of dead bees, the floor was dry, and the caps of the cells lay along in regular order under the spaces between the combs—showing that the bees had not moved much.

The number of dead bees was much less, and evidently those which had died a natural death —not the sleek, whole winged ones, but dark, jagged-winged, *hard* workers—perhaps a half tumbler full in each hive.

Though the *size* of the hive is here given, it is not necessary that it should be adopted for the better preservation of the bees. The *principle* can be followed out by using the square box hive, common among farmers. Another advantage in connection with this arrangement is, that if the bees fall short of honey, they can be readily fed.

One of my hives (about February) had not a drop of honey in it. I filled a tumbler full of plain barley candy, and inverted it over one of the holes, and the bees leisurely consumed it all. One pound (cost 25 cts.) carried them through till the time of fruit blossoms, when (the weather being favorable,) they laid up sufficient to last till the white clover came. —Apis, *in Bee Journal.*

☞ 3660 workers will fill a quart measure.

Ants.—To Keep Away from Hives.

When hives are properly constructed, ants cannot get into them to propagate their young. They frequently, however, get into hives in consequence of not being properly constructed, and do much injury, as they annoy the bees, injure the hive by eating into the wood, and will eat the honey if accessible. It is very little trouble to drive and keep the ants away from the hive, although much trouble has been experienced by many, for the simple reason that they knew no remedy. *To drive the ants away from the hive*, or out of their retreat, direct upon them a small quantity of the smoke of wood or tobacco. Each one will usually shoulder a number of their young, and "secede" *instanter! To keep the ants away from the hive*, apply, as soon as they have mostly disappeared, thinly in places where they frequent, with the feather part of a quill, the *spirits of turpentine*; they will not be seen again, in general, during the remainder of that season; but should they return, repeat the application. This preventive is very simple as well as efficacious; try it.—M. M. Baldridge, *in Bee Journal.*

Get your Hives Ready.—We trust that many of our readers who have been denying themselves the greatest luxury in the whole world of sweet, good honey, have made up their minds, ere this, to do without no longer. In the matter of bee culture, as in many other things, there is more in *dreading* than *doing*. Get your hives ready, look out for the bees, and when another autumn comes, your tables may be loaded with the fruits of their labors.

☞ It takes about ½ lb. of comb to hold 15 lbs. of honey.

One gallon of honey weighs 12 lbs.

The least possible space for a *loaded* worker, is 5-32 of an inch.

5-32 of an inch will allow a loaded worker to pass, but will be too small for a *Queen*.

One pound of honey contains about 20 cubic inches.

☞ One square inch of *worker* comb contains about 25 cells on one side, on both, 50. Hence, a piece of comb 4 inches by 5, will contain 1000 workers.

One square inch of *drone* comb contains about 16 cells, and on both sides 32.

The cells of workers are 7-16 of an inch in depth, and drones are 9-16.

☞ The average *weight* of workers (from four counts) is 4850 to a pound, avoirdupois.

1600 drones weigh about the same.

THE HORTICULTURIST.

A. G. HANFORD, : : CORRESPONDING EDITOR.

Low Heads the best Winter Protection for Trees.

Fruit trees of all kinds, we believe, are greatly to be preferred with low heads; but the popular taste demands them quite high.

Nursery men, of course, find it to their advantage to supply the wants of their customers; hence trees as generally sent out have their heads pretty well trimmed up.

Trees two or three years old (the proper age for planting) may easily be remodeled to suit the planter; if trained too low, train up; if too high, cut back. Do this at time of planting. As a rule, the more you shorten, the less the risk in transplanting, and the better the subsequent growth.

The Cherry, the Apple and the Pear, with long naked stems, are apt to be injured during winter and early spring, by the action of the sun upon the exposed bodies. Protection from this is desirable: the best is the shade of a low spreading top. There are many other reasons why low-headed trees are best.

Where a tree has already attained considerable size, and the form cannot easily be changed, some other protection should be devised.

Some time since, while visiting the grounds of a successful orchardist, on the Hudson, we observed his Pear trees were protected on the south side by strips of bass matting the whole length of the trunk, tied lossely. Long rye straw would do equally well.

He remarked that, beside preserving the bodies from injury, since he had pursued this practice, his trees were more exempt from blight.

The culture of the finer sorts of the Cherry is often unsatisfactory in the West, by reason of cracking of the bark. With this treatment better success might be had; the experiment is at least worth making.

Since the above was written, a report of the Cincinnati Horticultural Society's meeting of 28th December, has reached us, from which we make an extract bearing upon this subject:

"Mr. Bateham asked if the Heart Cherry, headed low, could be recommended as a market crop?

"Mr. Wm. Heaver replied that his trees had been put to a very severe test, which they successfully sustained. He felt satisfied that heading the Heart Cherry low, was a perfect and sure remedy against what he called sun scald. Treated in this way, the trees improved in condition, and became much more vigorous.

"Dr. Jos. Taylor corroborated the views of Mr. Heaver; his grounds were in precisely the same condition, as to situation, &c., as Mr. Heaver's, and all low-headed trees were as sound as when first planted. He cut off the tops even when as thick as his arm. His neighbor has a fine orchard of beautiful apple trees, grown as usual.

"Last fall one-third of them were destroyed; they had been exposed to the south-west sun.

"All low-top trees in his observation were perfectly sound; their productiveness is also much greater, and growth healthier."

A. G. HANFORD.

COLUMBUS, Ohio, Jan. 2d, '62.

Blackberries versus Corn.

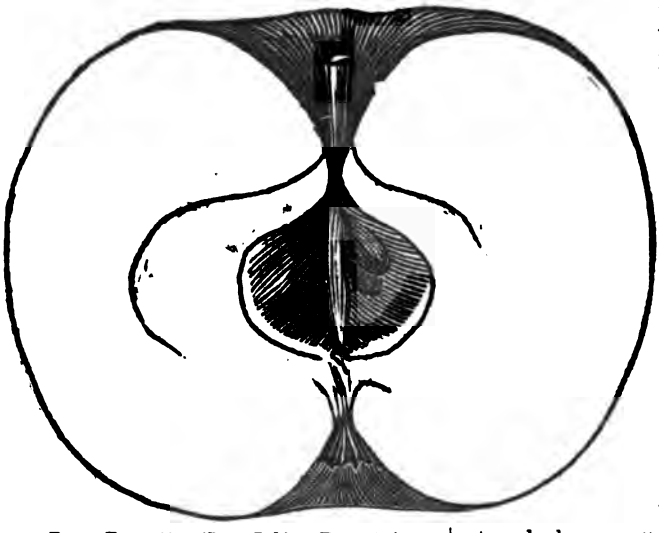
Sixty bushels of Lawton Blackberries to less than an acre of land, only the second year from planting were raised the past summer by Chas. Merritt, of Battle Creek, Mich. If we mistake not this is more than double the average yield of shelled corn per acre in Wisconsin, and with but little or no more expense in culture, being once planted. Under good management the yield will increase for several years. Mr. Merritt sold his entire crop in Chicago at *five dollars per bushel*. Three hundred dollars per acre! Col. Crocker succeeds admirably in growing the Lawton Blackberry in his fine garden on Spring St., Milwaukee. We should judge his bushes would show, if measured, a much larger yield per acre. You, Mr. Editor, can bear testimony with me to their excellence.

One thing should be borne in mind by all who would grow this most excellent fruit North of Egypt: the canes must be laid down before hard freezing and covered with soil or litter, thus to remain until settled weather in spring. In Southern Illinois it succeeds admirably without this care. We met with bushes there last summer which were immensely full, the berries out-rivalling the most exaggerated

representations of this truly magnificent fruit. In one instance it was estimated that there was a full peck per bush (or clump of about a dozen stalks). How few there are in Wisconsin who have there even tasted a well ripened blackberry. For, save in the Northern part of the State where they are protected by snow, even the wild ones rarely fruit.

Yet all might, with very little trouble, add this delicious variety to their family supply of fruits. A. G. HANFORD.

COLUMBUS, January, 1862.



Perry Russett.—(Syn. Golden Russett.)

This most valuable of all the russett tribe for the Northwest is now in season, just taking on its golden hue of maturity.

Fruit above medium size; nearly round, often little flattened conical; color yellow, evenly russeted with many specks and occasional russett patches; stem short; cavity medium, thickly russeted; calyx small, closed; basin regular, narrow and deep; core small, seeds few; flesh yellowish white, compact but tender, juicy, mild sub-acid.

It is less saccharine than the Eng. Golden Russett, much finer in appearance, nearly twice as large, more tender fleshed, and more valuable as a dessert fruit than the latter, and equally hardy. In common with all the russetts, it is liable to wilt unless kept in a cold place.

Tree moderate grower, with redish, brown wood, forming a beautiful spreading orchard tree, but good nursery tree as it loses nothing by going backward, and has no waste wood if properly summer-pruned by the hand.

It was formerly introduced into this State from Western New York, under the above names, but seems to have been lost sight of by Eastern fruit-growers.

It finds a congenial home in the rich prairie soils of the Northwest, to which, its extreme hardiness and uniformity of growth seem adapted. Forty standard three years trees set three years since on our grounds, in one block, are now most beautiful uniform specimens of orchard trees.

The specimen from which we make the above drawing was grown by Wm. Bartholomew of Lodi, a very extensive and successful fruit-grower, who has fifty trees of this variety, two to six years set, and who says, "three year old trees come into bearing about three years from setting, and are every way among the best."

J. C. PLUMB.

Vine Hill Nurseries, Madison, Wis.

Varieties of the Apple—Brief Descriptive List of such as may be planted in all Ordinary Localities.

Believing that much of the difficulty in growing the apple in climates not the most favorable arises from ignorance of the most suitable varieties, we have ever been cautious about recommending such as have not been fully and satisfactorily tested for a series of years.

Nothing is more certain than that there are varieties which will flourish in Wisconsin and localities in the same latitude further West;

nothing truer on the other hand, than it is the sheerest folly for us to try to raise every kind for which we may happen to have a fancy.—The following list is taken from a new Price List just published by Messrs. Plumb, Willey & Co., of Madison:

1. *Fall Stripe*—vigorous, beautiful grower, extremely hardy, great and early bearer, fruit medium size, nearly round, uniformly fair, tender, aromatic, sub-acid flavor, which takes everywhere; season, Aug. and Sept.; for family and market; unequalled in all qualities of tree and fruit by any of its season.

2. *Colvert*—hardy, vigorous, and upright, forming a beautiful orchard tree; productive fruit, large greenish yellow, coarse sub-acid; cooking; Sept. to Nov.

3. *St. Lawrence*—hardy, spreading, open top, medium to large aromatic, sub-acid, moderately rich, pleasant; September to October.

4. *Fameuse, or Snow*—hardy, vigorous, spreading, early and constant bearer, medium size, tender, delicious aromatic, sub-acid;—November to February.

5. *Cider*—resembles the St. Lawrence tree, very hardy, vigorous and productive, fruit oval, medium size, striped, white fleshed, excellent cooking and eating; from September to January. It promises to be one of the few, completely successful, in the rich soils of the west. May be identical with some old sort.

6. *Sweet Wine*—Tree very hardy, upright strong, grower, with wine colored bark; good bearer with age; medium size, round dull red on greenish yellow, flesh white, tender, good eating, cooking and stock apple in use through the winter.

7. *Westfield Seek-No-Further*—hardy, vigorous, productive, medium, tender, aromatic, peculiar, a general favorite. Elliot says, "For all qualities of trees and fruit, has no superior. November to March.

8. *Winter Wine Sap*—(Wine Sap of Elliot) very vigorous, hardy, spreading grower, dark wood, successful on all soils; medium to small; conical, mostly bright red; flesh tender, juicy, sub-acid. January to March.

9. *Pomme Gris*—A delicious little apple, suited to garden culture and the rich prairie soils of the North west; good and early bearer; round and pretty; sub-acid. December to March.

10. *Perry Russet*—Vigorous, hardy, productive, large, spicy, excellent. Best of all the Russets, and invaluable to the western nurseryman and fruit grower. December to May.

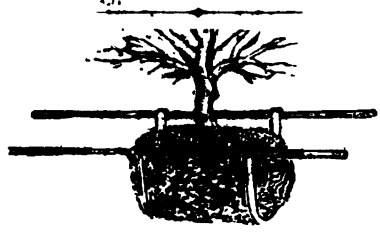
11. *Golden Russet*—Hardy, productive, medium, mild, sub-acid. December to May.

12. *Northern Spy*—Hardy, vigorous, not productive when young, medium to large, juicy, texture and flavor almost unequalled. January to June.

13. *Red Romanite*—Tree very vigorous, hardy and productive, fruit small, 8d rate in quality, mostly red, and when well grown and ripened on the tree a very saleable apple. Its many excellent qualities have given it the title of "Money Apple." Keeps well till June.

14. *Dominie*—Tree spreading, very vigorous and productive, tender except on very dry, light soils; medium; flattened, striped; firm fleshed, sub-acid, resembles Seek-no-further.—January to March.

15. *Herefordshire Pearmain*—Upright medium grower, fruit small, mostly red, firm fleshed, rich and delicious; in use during winter.—This with the latter named are old varieties of excellent character, and promise well on dry ridges or light sandy soils.



How to Move Trees in Winter.

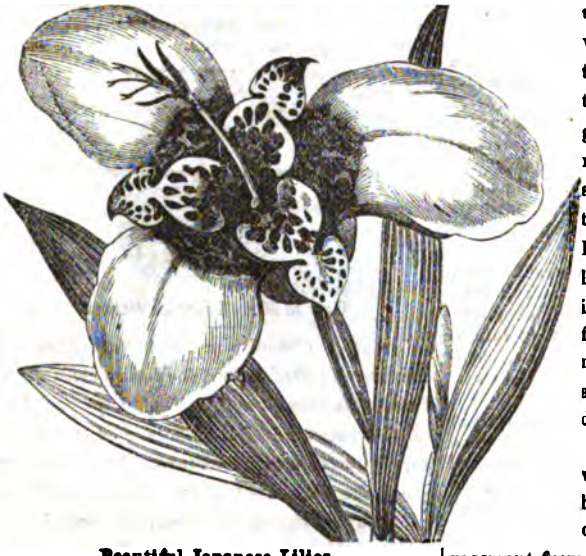
One great difficulty in transplanting trees of considerable size so that they may continue to flourish as though nothing had happened, lies in the breaking of the little rootlets which supply the tree with moisture. No matter how great the care used, it is quite impossible to avoid this in the spring, when the earth is soft and crumbles away from the roots on being jarred, however slightly, in the necessary handling.

On this account some are in the habit of moving their trees in the winter, when the earth is frozen so hard that a large mass of earth, enclosing multitudes of the essential rootlets, may be removed with them. In this manner the tree actually remains in the very soil where it has been accustomed to grow, and when spring returns, it hardly knows that anything has happened.

If the tree is very large, requiring a mass of earth deeper than the frost has descended, it may be necessary to dig a trench about it and thus allow the frost to penetrate to the required depth.

For removal to a short distance we know of no better contrivance—except for very heavy

trees requiring horse power—than the one illustrated above. The bent bands, with hooks at the ends for the poles, are iron and may be made of any old wagon tire. If more hands are necessary than can easily take hold of the two poles shown in the cut, others may be placed under and across the ends of these so as to afford an opportunity for any number of men to join in carrying off the tree to its destined place.



Beautiful Japanese Lilies.

However far behind us in the progress of the industrial arts, the Japanese have the decided advantage of us in some branches of the fine arts and in the exquisite beauty of many of their cultivated flowers.

The Lily is a remarkable instance of this floral superiority. They have three species, which, for superbness of flowers, delicacy of tint, and richness and yet delicacy of perfume, are perfectly royal. We refer to the *Japonicum*, *Speciosum*, and *Lancifolium*. The first (Japanese Lily) has a stem nearly 5 feet high, and the flowers 7 inches long, white, with a tinge of purple down the back of each petal. The second (the Showy Japan Lily) "has clear, deep rose-colored flowers, which, as Dr. Lindley expresses it, 'seem all rugged with rubies and garnets and sparkling with crystal points.' It is also very sweet-scented. There are several varieties; one of which is pure white. The petals curl back."—*Loudon*. The third species (the lanceolate-leaved Japan lily) is also a very beautiful plant with very large flowers, the petals of which are not reversed in the same manner as those of the *L. speciosum* but open widely, bending back from the pistil, yet without curling in. There are several varieties, the most beautiful of which *lancifolium roseum*, excels almost any flower with which we are acquainted in the exquisite beauty of its rose tinting and in the delicious fragrance with which it fills the room where it is kept. We had a large and beautiful plant of this variety in the Agricultural Rooms last season, which for a long time was the delight of visitors. Its flowers were about four to five inches in diameter, most charmingly tinted with rose and spotted near the base with deep crimson.

All the Japan lilies with which we are acquainted, are perfectly hardy, flourishing in the outdoor world with as little embarrassment from the weather as the common lily or peony.

They are almost always propagated by offset bulbs; though new varieties may be raised from the seed, which, in most soils, ripens in the early autumn. Being treated properly, the young buds will flower the fourth and fifth years.

Would it not be well for more of our cultivators of flowers to take some pains to supply their gardens with these beautiful lilies of Japan?

A Thorny Hawthorn.—A new variety of the English Hawthorn, called *Cratægus oxyacantha horrida*, has been introduced in the Belgian Gardens, with thorns as large and as formidable as our Honey Locusts.

MECHANICAL & COMMERCIAL.

The Manufacturing Interests of Wisconsin.

This journal has repeatedly, in times past, urged the importance of some measure or measures for the special encouragement of our manufacturing interests; exemptions from taxation, for a term of years' being the policy each time recommended. Twice also has the Executive of the State called the attention of the Legislature to the subject and recommended this very measure. Nothing has been done, however, by the law-making power; and as the reasons in favor of such a policy remain in full force, we shall make no apology for again urging the propriety of such exemption upon the industrial public, and those political economists whose aim it is to shape the policy of the State.

Wisconsin has again and again been styled pre-eminently agricultural; and so it is. But it is none the less true, that it may become a manufacturing State. Indeed there is scarcely a State in the Union which possesses superior natural advantages in this respect.

We have immense stores of mineral—lead, iron, zinc and copper—susceptible of the most economical mining and preparation for manufacture. In many districts there are almost inexhaustible supplies of timber of the best quality and of the varieties mostly required in the arts. Our soils are adapted to the growth of flax and other staples used in the manufacture of cloth, cordage, &c., and to the supply of an immense home demand, with a large surplus for exportation to other States and foreign countries. Nature has provided us, moreover, with any amount of the most available water-power. And finally, our State, surrounded on all sides, but one, by great navigable waters, is at the same time to a very unusual extent supplied with natural internal channels for the easy transportation of all the products of Agriculture, the Mining and the Mechanic Arts to those great boundary waters which directly connect us with all the markets of the new and old world.

What more could providence do for us than He has done? what clearer indication give of our destiny as a State and of the means to be employed for the fulfillment of that destiny?

A people may live and flourish on agriculture alone; even though a large proportion of the products of the soil must be shipped to distant markets; instances are not wanting to prove this. But it is nevertheless certainly demonstrable that a home market for such products is more desirable, and that a country so rich in the economical minerals and timbers must find it more profitable, so long as the means are at hand, to do its own manufacturing, and thus save to itself not only the profits on the business of manufacture but likewise that dead loss which now comes of the transportation of much useless material and the re-transportation of the manufactured article from distant portions of the country for the use of its now merely agricultural, mining and lumbering population.

Millions of dollars are lost every year to the farmers of Wisconsin by their remoteness from the great grain markets. They work like heroes to produce their great crops of wheat, and then practically give to ship owners and transportation companies three-fourths—if not, indeed a larger proportion—of all the profits of their toil. But this is not all: after selling their wheat for less than it cost, they then buy back of Eastern manufacturers, their cloths, leathers, hardware, paints, oils, &c., &c., at a price including cost of manufacture, profits on manufacture, profits on handling by the wholesale dealer, cost of and profits on transportation, and lastly the profits of the retailer at home. What they need therefore, is that New York be brought to their doors; and this to a considerable extent, can be practically accomplished by the establishment of factories where wool, flax, flax-seed, hemp, &c., &c., could find a market; where a large amount of the breadstuffs now exported might be sold for consumption by the operators, their families and the large population which would naturally cluster about extensive manufacturing establishments, (and which, as time advances, would make large

and flourishing villages and cities in the manufacturing districts) where also many of the substantial articles essential in domestic life could be purchased at new York prices, the cost of double transportation deducted.

Large amounts of money are lost to the Lumbermen of Northern Wisconsin, in like manner, through the less demand for home use than there would otherwise be, if there were establishments for the manufacture of all kinds of farming implements and machinery, cabinet and other wooden wares. And to a still greater degree is it true, that the mining districts suffer loss, since the cost of transportation of the raw materials to the factories in the East and of the manufactured articles back again is necessarily heavier than for most other articles.

But the *need* of manufactories may be considered as established without further argument. It remains to us to consider, first the natural facilities, and secondly, the question of capital.

As to *natural facilities*, it may be said without fear of successful controversion, that there is scarcely a state in the Union, so well provided. We have no coal mines for fuel, but we have much of the finest water power in the world, and, as already remarked, we are provided with the means of producing the raw material of superior variety and quality and with comparatively little cost.

The *question of capital* therefore is, really the only one that requires to be settled.

The building of factories, and the furnishing them with machinery, &c., necessarily involves heavy expenditures, and consequently none but men of heavy capital and corporations with large means in the aggregate can engage in the business. Nor will men of this class invest their money in manufacturing so long as the attractions of other branches of industry and of speculation in real estate are so much greater. Money has no endowment of either conscience, patriotism or philanthropy, and usually goes where it can increase its gains most rapidly and surely; it will not be forced.

It is clear, accordingly, that if we would induce the investment of capital in the manufacturing business, we must adopt some course which will make it relatively profitable. The proposed exemption from taxation, for a period, of all capital invested in those branches of manufacture which the public good requires should be especially fostered and which cannot well be sustained, at first, without help, might not have the effect to immediately engage large amounts of capital, now foreign, in that class of business; but it certainly would have that tendency. And inasmuch as the capital thus directed into that channel, would chiefly come from without the State and hence be at once a clear gain to our wealth as a people, and a beneficent agency in all the communities where employed, there seems to be no good reason why the policy of exemption should not be adopted. Will not the present Legislature give to their measure the consideration it deserves, and if possible, give us a law that shall promote this important industrial interest?

Cutting Files by Machinery.

At a recent meeting of the Institution of Mechanical Engineers, London, a machine for cutting files, the invention of M. Bernot, of Paris, was exhibited and described by Mr. Greenwood, of Leeds.

He said the chisels could cut five times as many files as by hand, without being resharpened. The teeth cut on the files were raised with perfect regularity, and were fully better than those made on hand-made files. Twelve of such machines are now in operation at Douai, France, one in Brussels, Belgium; and the relative cost for cutting files by them was eight cents per dozen; by hand sixty-four cents. Mr. Greaves, who was present, said he had been engaged in file cutting for twenty-five years, and he could state that these machines could cut as good files as those made by hand, if they were well attended. It was also stated that various machines had been tried both in America and England, none of which has been so successful as the one of M. Bernot.—In most of the machines heretofore made, the idea eliminated in them was an iron hand holding a chisel, and an iron hammer striking blows on it. The vibration of the chissel, by this mode, caused irregularity in the teeth. In the new machine, the blow is given by the pressure of a flat steel spring pressing upon the top of a vertical slide, at the lower end of which the chisel is firmly fixed. This slide is actuated by a cam, which makes about a thousand revolutions per minute, and obviates all irregular vibrations.

Internal Commerce of the Country.

One result of the rebellion, the object of which was to secure the commercial independence of the South, has been not only to annihilate its commerce, but to show that it constituted so inconsiderable a proportion of that of the whole country that its loss will soon hardly be missed Nearly all the products of the South entered into the channels of commerce, so that their value can be readily estimated.—For the whole, $275,000,000 is a liberal estimate, of which cotton may be put down at $200,000,000. This, by itself, is a vast sum, but relative to the commerce of the whole country, a very small one, as will be seen by a statement of that of the Northern States.

The State of New York is the only one in which freight on its public works is so classified that accurate estimates can be formed of its value. The following is a statement of the number of tuns and value of the same moved on the railroads and canals of the State:

RAILROADS.

Kind of Freight.	Tuns Carried.	Val. pr Tun.	Total Val.
Products of the forest,.....	372,424	$20	$7,468,480
Products of animals,.....	895,519	200	179,103,800
Vegetable food.....	1,103,640	50	55,182,000
Other agricult'l products...	143,219	15	2,145,280
Manufactures	511,916	250	127,979,000
Merchandise.	783,811	500	391,905,500
Other articles.....	930,240	10	9,302,440
Totals.....	4,741,778	$163	$773,096,500

CANALS.

Products of the forest.....	1,509,977	$7	$10,654,719
Products of animals.....	19,882	253	5,030,067
Vegetable food.....	1,659,158	30	49,710,838
Other agricult'l products....	3,714	29	1,100,069
Manufactures.....	268,759	30	3,112,177
Merchandise.....	250,360	337	84,250,428
Other articles.....	933,364	13	11,933,909
Total, ...	4,659,214	$37	$170,849,198
Add tunnage of railroads...	4,741,773	163	773,096,500
Total,.....	9,391,987	$190	$943,945,698

The canal is almost exclusively used for the coarser kinds of freight; the railroad for the more valuable kinds. The value of the freight on railroads is made up from estimates of experienced forwarders; that on the canals from the manifests of shippers.

The number of tuns carried on the railroads of Massachusetts for 1860 was 4,094,369, having an aggregate value of $667,382,147, adopting the value per tun estimated for the railroads of New York. The tunnage of the public works of the two States for the year was 13,486,351, having a value of $1,611,327,845; a sum eight times greater than the cotton crop, and six times greater than the products of all the cotton States. But the commerce of the public works of the two States by no means embraces the whole that is carried on in them. In New York there is a vast commerce on the Hudson river and the lakes, to say nothing of the immense trade carried on in both over ordinary roads.

The length of the railroads of Massachusetts and New York engaged in the transportation of freight, is 1,317 miles in the former, and 2,569 miles in the latter. The tuns carried per mile in the former is 3,108, and in the latter 1,867; the average for the two States is 2,276 tuns per mile. There are in the loyal States fully 23,000 miles of railroad in operation. If we estimate the tunnage for the whole to be one-half that of the railroads of Massachusetts and New York, the aggregate tuns moved on them is 26,174,000. At a evaluation of $163 per tun the aggregate value of their tunnage is $4,266,362,000. The tunnage of the canals probably exceeds $12,000,000, having a value of $30 per tun, or $360,000,000. The total tunnage of the public works of the North, consequently, is 38,174,000 tuns, having a value of $4,626,362,000. The amount of the tunnage is unquestionably largely underrated. We are confident its value is not overstated. In bulk, it is forty-five times greater than the whole cotton crop. In value, twenty-three times greater.—*Am. R. R. Journal.*

Chicago Trade, 1861.

The following is a statement of the business of Chicago for the season ending Nov. 30. As navigation upon the lakes is substantially closed, the grain business for the season may be regarded as over, though considerable will be done on the railroads during the winter, if the New York markets will warrant it. Below is a table of some of the leading articles received at Chicago for two seasons, from January 1st to November 30th:

	Receipts.		*Shipments.*	
	1861.	**1860.**	**1861.**	**1860.**
Flour, bbls.	1,838,491	688,020...	1,434,296	618,307
Pork, "	44,381	13,528...	89,987	67,229
Wheat, bu.	17,561,521	13,671,291...	14,423,162	12,343,700
Corn, "	26,154,425	15,448,624...	23,750,187	13,715,137
Oats, "	1,390,125	1,662,466...	1,034,871	1,041,719
Rye, "	482,495	300,907...	402,995	139,309
Barley, "	704,971	530,717...	145,421	245,908
Lumber, ft.	213,775,000	256,303,611...	156,993,500	215,485,452
Shingles No.	59,375,961	115,969,611...	91,078,250	156,368,325
Lath,.... "	17,302,500	27,969,856...	115,000,000	62,932,581
Wool, bales,	912,518	671,662...	1,290,319	723,142
Lard, ...lbs.	6,345,398	388,309...	13,509,596	7,261,273
Butter,.. "	2,265,148	1,522,418...	1,818,118	1,714,011
Lead, ... "	12,179,434	10,600,097...	7,487,482	9,174,750
Live hogs, No.	265,464	193,882...	150,759	117,715
Dres'd " "	149,318	52,144...	59,972	17,551
B'f cattle "	146,425	138,995...	101,495	95,434
Beef,.....lbs.	41,450	21,480...	60,848	41,423

The carrying capacity of the marine fleet trading between Chicago and Eastern seaports is not far if any, below 45,000,000 bushels of grain, yet the receipts of produce at that port for the present season have been so immense that this fleet has been unable to carry it off as fast as it accumulated, and at the close of navigation left at Chicago over 3,000,000 bushels of grain in store.—*Hunt's Magazine.*

HORSE SHOEING IN WINTER.—Some blacksmiths seem to forget that horses shod in the winter should have the inner side of the shoe of such configuration as to let go easily of snow balls formed within the hoof. It only requires a gradual increase in size outward, with no dovetailing in figure, and each ball, almost as fast as formed, will readily be parted with. Why could not the horse-shoe, for city use, have a slight coating of gutta percha on its upper side, so as to break the momentum of blows on the paving stones? This would materially ameliorate the difficulty so frequent in cities, where one-fifth of the horses have their feet ruined in a few years by continually treading on a too solid pavement.

SCIENCE, ART, STATISTICS.

From Hunt's Merchant's Magazine.

The Arctic Expedition of 1860.

OFFICIAL ACCOUNT OF THE RECENT VOYAGE OF THE UNITED STATES, BY DR. HAYES.

EXPLORING SCHOONER UNITED STATES,
Harbor of Halifax, Oct. 1, 1861.

I have the pleasure to send you the following account of the proceedings of the expedition to the Arctic seas, under my command, subsequent to the 14th of August, 1860. My letter from Upper Navik to the contributors of the Expedition, bearing the above date, will have instructed you of my movements up to that time.

We sailed from Upper Navik on the 16th of August, 1860; but calms detained us on our way to Tessuissak, and we did not reach the latter place until the 21st. Having there increased the number of our dogs by the addition of the interpreter's team, making a complement of twenty-five animals, and having further increased my crew by the addition of two Danes and one Esquimaux hunter, we put to sea again on the 22d, and stood northward, with a fair wind. On the morning of the 23d we entered Melville Bay. On the following day at three o'clock, P. M., we passed the Sabine Islands, thence we made a direct course for Cape York, which was reached at five o'clock, P. M., of the 25th.

Our passage through Melville Bay was remarkable. No field ice was seen until we reached within a few miles of Cape York, when we encountered a narrow stream, which under a full press of sail, was bored without difficulty. We were only fifty-five hours in effecting the passage of the bay.

Standing close in under Cape York, I kept a careful watch from aloft for Esquimaux, and soon had the gratification to discover a group of them moving down toward the beach. The schooner being hove to, I went ashore, and was met by HANS, Dr. KANE's runaway boy, and other natives. HANS quickly recognised Mr. SONNTAG and myself, and having expressed a wish to go with us, I took him, together with his wife and child, his hunting equipments and two dogs, on board, and again stood northward.

At seven o'clock of the morning of the 26th we were brought up by a heavy ice pack, twenty miles south of SMITH'S Strait. There being a high sea setting directly upon the ice, and the air being thick with falling snow, we lost no time in plying to windward, and, having obtained a good offing, hove to, to await better weather.

The wind soon fell to calm; the clouds broke during the night, and on the morning of the 27th we rounded the ice, in shore, and, under a light northeast wind, stood out toward the centre of the strait, which we entered at nine o'clock, P. M. Here we met a heavy pack, through which no practical lead could be distinguished. Our examination of its margin, with the view of finding an opening, was cut short by a heavy gale, which broke suddenly upon us from the northeast. The bergs being very thick about us, we could not heave to, and we ran great risk of losing every exposed sail. The gale lasted, with very little abatement in its volume, during the 28th and 29th. On the morning of the 30th, having carried away the foresail, we were glad to reach a small cove, twelve mites south of Cape Alexander, and there dropped anchor in four fathoms water. Here I obtained an excellent view from an elevation of 1,200 feet. The pack appeared to be impenetrable, and very little water was to be seen along the west shore. I determined, however, to affect the passage.

I had scarcely retured from my journey to the mountain when the gale again set in from the same quarter, and with a violence which I have scarcely seen equalled. On the morning of the 31st we were driven from our moorings, and, in the effort to save our anchors, we were forced upon a group of icebergs which had drifted in with the current, and carried away our jibboom. The wind moderated soon afterward, and we once more entered the strait; but the gale setting in again, the fore gaff was broken in wearing, and being now obliged to heave to, we were a third time driven out of the strait, to seek shelter behind Cape Alexander.

Damages having been repaired, we again entered the strait on the evening of September 1. Discovering no lead through the ice to the westward, we bore for Littleton Island, with the hope of finding, near the more solid ice higher up the strait, a more practicable opening. The gale still continuing to blow with great force, and being under reduced canvass, we made but little headway.

Littleton Island was reached September 2d. Being unable to penetrate the ice to the westward, I determined to work up the coast to

Cape Hatherton, with the hope of there finding the ice more open. The undertaking was necessarily attended with considerable risk to the vessel, on account of the heavy fields of ice lying off Littleton Island. The schooner frequently came in collision with ice fields from fifteen to twenty feet in thickness. The quarter-inch iron plate on the cutwater was torn off, and the false stern was carried away.—Soon afterward we encountered a severe "nip," and before the rudder could be shipped, the two lower pintels were broken off.

In this crippled condition it was impossible to make further headway, and, after extricating ourselves from the ice, we ran down into Hartstein Bay and anchored. During the 3d, 4th and 5th of September the wind blew with great force from the same quarter as before.—On the 4th, I reached, with much difficulty, Littleton Island in a whale boat, and obtained a view to the westward from an elevation of some four hundred feet. The ice was very heavy to the west and southwest—a thick impenetrable pack—but to the northward, along the land, it was loose, and the prospect of working westward from Cape Hatherton was encouraging.

On the 6th the wind fell to a calm. The boats were got out, and we pulled up to Littleton Island; but two days had completely changed the position of the ice. Between Littleton Island and Cape Hatherton there was no open water, nor was there any visible from the top of that island to the northwest, west or southwest. Unable to advance and fearful of being frozen in, we again extricated the vessel from the ice and rad back into Hartstein Bay.

Everything about us now began to wear a wintry aspect. The temperature had fallen to eighteen degrees below freezing. Thick snow had been falling at intervals since August 25. Our decks were covered with ice, the sails and rigging were so stiff with it that they could barely be worked, the schooner's sides were covered with a thick crust, and large masses of ice had accumulated on the cutwater and forward rigging. The navigable season was clearly drawing to a close.

Northeast gales detained us during the 7th and 8th, and the temperature continuing to fall, I deemed it imprudent again to enter the ice, and accordingly we went into winter quarters on the 9th, in a bight at the head of Hartstein Bay. The schooner was moored by four hawsers, forty yards from shore, in seven fathoms water. The sails were unbent and the topmasts housed, and, after giving our crew a holiday, our winter operations were commenced. The stores were deposited in a house built for the purpose on shore. The hold was converted into a comfortable room for the men, and the upper deck was housed over with boards. Owing to bad weather, three weeks elapsed before these arrangements were completed.

Our winter harbor, which I named Port Foulke, in honor of William Parker Foulke, Esq., of Philadelphia, was well sheltered except to the southwest. Observations made by Mr. Sonntag, at the observatory, erected on shore near the vessel, gave its position, latitude 78° 17′ 41″ N., longitude 72° 30′ 57″ W., twenty miles further south than Dr. Kane's winter quarters, and distant from it, by the coast, ninety miles.

I need hardly say that I deeply regret that we could not attain a higher latitude with the vessel; particularly do I regret that we could not reach the west coast. That coast was wholly unapproachable with a sailing vessel.

The weather continued boisterous throughout the autumn, and, indeed, during the greater part of the winter. In consequence of the repeated gales the water off the harbor was not frozen over until March, so that sledge travelling to the northward was impracticable during the month of October, at which time I had expected to carry out provision depots for use in the spring. Mr. Sonntag made an attempt to reach Rensselaer Harbor in November, and although the darkness of the winter had then set in, he was baffled by the open water.

While the daylight lasted we were profitably employed. A survey of the harbor and adjacent coasts was made by the joint labors of Messrs. Sonntag, McCormick, Dodge and Radcliff. In September Mr. Sonntag put up in the observatory the fine pendulum apparatus, constructed expressly for the expedition by the Messrs. Bond, of Boston, and a full set of satisfactory experiments were obtained. The magnetic instruments were subsequently placed in the same building, and observations were there made from time to time. A meteorologic observatory was erected on shore, and observaiions were there recorded three times daily, with several instruments. A bi-hourly record was kept near the vessel, with a single instrument. I may mention that all of the instruments have been well compared. A survey of John's glacier was made by Mr. Sonntag and myself in October. This glacier, which was discovered and named by Dr. Kane, approaches the sea through a deep valley, and its face is two miles from the sea. The angles, not yet reduced, obtained in October, were repeated by myself last June, and they show a considerable movement of the glacier. The survey of this glacier was further continued by me late in October, with a party of five persons. I ascended to the *mer de glace*, and travelled eastward fifty miles. Our greatest elevation was 4,500 feet, the temperature at which elevation was 15 degrees lower than at the level of the sea.

The winter was passed in health and comfort. We were fortunate in capturing upwards of 200 reindeer, which kept both ourselves and the dogs well supplied with fresh food.

The winter brought, however, some serious misfortunes. A disease which had been prevailing in North Greenland during the last few years broke out among the dogs, and of the fine pack which I had taken from the Danish settlements, only eleven animals remained alive on the 20th of December. You are well aware that my plan of explorations was wholly based upon dogs as a means of transport across the ice, and, situated as I was, on the east side of the strait, and ninety miles further south than I had anticipated, I became seriously apprehensive for the success of the approaching effort.

[To be concluded in next No.]

GROUND HOG DAY.—February 2d was the celebrated "ground hog day," which. according to legend, fixes the question of an early or late Spring. The story goes that on that day the ground hog—or, as the Yankees call it, woodchuck—leaves his winter quarters and sallies forth to snuff the air. If there is no sun to show him his shadow, he goes cautiously about, and will even venture to dig up a few roots, to try the hardness of the soil as well as to tickle his palate a little, after his long hibernation. But in doing this, should a glimmering of sunshine strike him sufficiently strong to mark his shadow on the ground, he hies at once to his hôle, there to hibernate for six weeks—as instinct teaches him that winter will certainly linger that much longer. Should there be no patches of sunshine to disturb Mr. Woodchuck, he remains out, knowing that the reign of Jack Frost will speedily terminate.

☞ A certain insect has been found to lay two thousand eggs, but a single tom-tit has been known to eat two hundred thousand eggs a year. A swallow devours about five hundred and forty-three insects a day, eggs and all. A sparrow's nest in the city of Paris was found to contain seven hundred pair of the upper wings of the cockchafers, though, of course, in such a place food of other kinds was procurable in abundance.

☞ Mr. Richard Hugh Hughes, of Hatton Garden, London, proposes to accomplish the ventilation of collieries by forcing fresh air to their various parts by means of pipes under pressure. Air, he contends, may be supplied to mines by an apparatus very similar to that by which gas is furnished to towns.

☞ The deepest deposit of guano known is seventy feet. According to Humbolt, a deposit of three centuries would not exceed one third of an inch in thickness. By an easy mathematical calculation, it will be seen that at this rate it would take almost countless centuries to form the deepest guano bed.

YEARS OF PLENTY AND SCARCITY.—Some believe in a theory that "five and six years of scarcity and five and six years of abundance follow each other pretty regularly." There may be something to it; at any rate it will do no harm to watch it. Count Hugo gives the following table, extended through a period of 33 years, to prove it. From 1816 to 1821 was a period of scarcity; from 1822 to 1827 was a period of abundance; from 1828 to 1832 was a period of scarcity; from 1833 to 1836 was a period of abundance; from 1838 to 1842 was a mixed period; from 1843 to 1847 was a period of scarcity; from 1848 to 1852 was a period of abundance.

☞ It appears from a paper read before the Social Science Congress, that the number of spindles in Ireland, running in the manufacture of flax, is 550,000, employing 75,000 people. One spindle produces about the same quantity of yarn, which the women could do by the old process.

☞ A tunnel is in process of construction under the bed of the river Indus, in India.—It is to be 7,215 feet long, and lighted by gas. The cost will be not less than $2,500,000.

EDUCATIONAL.

Experience of a District School Clerk.

MR. EDITOR:—In my humble situation I have a chance to make observations which may escape learned men of high standing; and if I do not clothe them in fine words, they may, nevertheless, contain some truths that will benefit those averse to education.

At our last annual school meeting, the proposition was made to have, besides a three months summer school, three months winter school. Americans and Germans voted all for, and the Norwegians all against the motion.—The School party gained by one vote. Since that, the Norwegians, not satisfied with the result have petitioned for a special meeting, and intend to drum out one or two more of their countrymen to vote the winter school down.—They are led by an Englishman who tells them that the costs of the war will drive them all from their homes. He is a member of some dark lantern society whose principles seem to be, to keep the great masses of the people ignorant, so that a few learned men may have a

better chance to rule. A winter school is very much needed, as several farmers in our district have large families of children growing up, who in summer, have to help their parents work on the farm, and several of whom can neither read or write; but the others who have none, or only smaller children, dont like to help to pay for a winter school. In summer a girl called a school teacher, is hired for about $10 a month, and the smaller children are sent to school, not so much to learn, as to get them out of the way. In this way a summer school is only a very poor nursery for little children.

The common school system I suppose is calculated to benefit rich and poor alike, but when a poor man with a large family of children, casts his vote in favor of a school, the wealthy will often abuse him and say, "You do good voting but dont pay much." And as the poor are often somewhat dependant on the rich, they will rather stay home from school meeting, than offend their rich neighbors. But I should think a man who has only 100 dollars property and pays one cent on each dollar, pays as much in proportion as one who has 1000 dollars, and pays one cent on each dollar.

Another great fault is the irregular attendance of children at school. But we are free men and dont like to be pressed to send our children to school. We love money more than educating our neighbors' children. We like to be called democrats, but are in fact, aristocrats. The poor are our slaves; they ought not to be educated, lest they get some notions of liberty and equality.

Having pointed out some faults of the common school system, I will also give my ideas of how to improve the same:

First, The School tax ought to be collected by the State, to build one great common school fund.

Second, Every town should build about four school houses so located on the forks of the roads that they are within about two miles of every inhabitant.

Third, Have a Clerk connected with every school whose duty it should be to visit all the families who are within reach of the school house, twice a year, perhaps in April or December to obtain signers for the next school term.

Fourth, Let every inhabitant sign a contract presented by the clerk, how many children he will send regularly for the next school term, with penalty attached for non-attendance.

Fifth, Let the State pay for every child from six years and over, signed for winter school, one dollar per month, and for every child from four years and over, signed for summer school 50 cents per month.

Sixth, When the Clerk has the promise of 20 or 30 children, or enough to pay a teacher, let him commence school. He ought not to be restricted to districts but obtain signers where he can.

Seventh, The penalty of non-attendance to be, except in cases of sickness, that the signer pay instead of the State.

These are only rough outlines which may be improved. At present the common school system is a failure; at least here in the country, it amounts to little more than quarrelling and makes neighbors enemies, who otherwise would have been friends.

Thank Providence we have got rid of that great nuisance, the town superintendency. In the six years, since the organization of this town, we never had a Town Superintendent who was able or tried to do his duty well—except one, and he was appointed to fill vacancy.—Often the elected occupant of the office had left without delivering papers or rendering account of money in his hands. But the appointed Superintendent was very much blamed, because he visited the schools, for running the town into so much expense. His bill for about one-half year's service was twelve dollars!

Our newly elected County Superintendent Dr. Gage, it is thought, (and I hope it sincerely,) will administer some reviving medicine to our languid school system. ADOLPHUS.

CRYSTAL SPRING, Monroe County, Wis.

☞ The good of society and even the prosperity of every individual in it, are dependent upon the education of the people.

Wisconsin School Statistics.

The Report of the Superintendent of Public Instruction is a very interesting and valuable document, embracing concise statements of the condition of the Common Schools, State University and other institutions of learning; also an account of the operations of the Normal Schools, Teachers' Institutes, &c.

The following statistics exhibit the condition and progress of school affairs, and should be compared with those of previous years:

Number of counties reporting,	56
Number of towns reporting,	750
Number of towns not reporting,	5
Number of whole districts,	3,762
Number of parts of distlicts,	1,792
Number of districts, reckoning 2¼ parts as equal to one whole district,	4,558
Number of districts not reporting,	133
Number of parts of districts not reporting,	98
Whole number unreported,	177
Number of male children between 4 and 20 years of age,	153,530
Number of female children between 4 and 20 years of age,	145,603
Total number over 4 and under 20 years of age,	299,133
Excess of males over females,	7,927
Increase since last report,	10,149
Whole number of children between 4 and 20 years of age registered in schools,	194,264
Number registered under 4 years of age,	2,013
Number registered over 20 years of age,	2,166
Total number in attendance,	198,443
Number estimated as in private schools,	8,000
Whole number attending both public and private schools,	206,443
Per centage of the number entitled to school privileges actually registered, nearly	65
Approximate per centage of regular attendance of scholars registered,	60
Average number of months schools have been taught,	6
Average number of months children between 4 and 20 years of age have attended school,	3.75
Average number of months schools have been taught by male teachers,	3.85
Average number of months schools have been taught by female teachers,	4.06
Estimated number of male teachers,	2,400
Estimated number of female teachers,	3,600
Total number of teachers, (estimated,)	6,000
Total number engaged in teaching at one time, (estimated,)	3,500
Average monthly wages of male teachers,	$23 01
Average monthly wages of female teachers,	$14 62
Amount of State funds apportioned in December, 1860, and June, 1861,	$131,636 03

AMOUNT RAISED BY TAX.

Town tax, levied by County Board,	$171,697 27
District taxes, for teachers' wages,	330,766 24
District taxes, for school houses,	123,356 09
District taxes, for contingencies,	97,300 65
Total taxes raised,	$723,124 25
Number of Stone school houses,	172
Number of Brick school houses,	294
Number of Frame school houses,	2,478
Number of Log school houses,	1,267
Total number of school houses,	4,211
Number of sites containing less than one acre,	3,230
Number of sites uninclosed,	3,037
Number of school houses without black-boards,	874
Number of school houses without outline maps,	2,985
Total valuation of school houses,	$1,302,732 00
Highest valuation of any school house,	$33,000 00
Lowest valuation of any school house,	.03
Average valuation of school houses,	$309 50

THE HOME.

The Old Couple.

It stands in a sunny meadow,
  The house so mossy and brown,
With its cumbrous, old stone chimneys,
  And the gray roof sloping down.

The trees fold their green arms around it,
  The trees, a century old;
And the windsgo chanting through them,
  And the sunbeams drop their gold.

The cowslips spring in the marshes,
  And the roses bloom on the hill;
And beside the brooks in the pastures,
  The herds go feeding at will.

The children have gone and left them,
  They sit in the sun alone!
And the old wife's ears are failing,
  As she harks to the well known tone

That won her heart in her girlhood,
  That has soothed her in many a care.
And praises her now for the brightness
  Her old face used to wear.

She thinks again of her bridal—
  How, dressed in her robe of white,
She stood by her gay young lover
  In the morning's rosy light.

Oh, the morning is rosy as ever,
  But the rose from the cheek is fled;
And the sunshine still is golden,
  But it falls on a silvered head.

And the girlhood dreams, once vanished,
  Come back in her Winter time,
Till her feeble pulses tremble
  With the thrill of spring time's prime.

And looking forth from the window,
  She thinks how the trees have grown,
Since, clad in her bridal whiteness
  She crossed the old door-stone.

Though dimmed her eye's bright azure,
  And dimmed her hair's young gold;
The love in her girlhood plighted,
  Has never grown dim nor old.

They sat in peace in the sunshine,
  Till the day was almost done;
And then, at its close, an angel
  Stole over the threshold stone.

He folded their hands together—
  He touched their eyelids with balm:
And their last breath floated upward,
  Like the close of a solemn psalm.

Like a bridal pair they traversed,
  The unseen, mystical road,
That leads to the beautiful city,
  "Whose builder and maker is God."

Perhaps in that miracle country
  They will give her lost youth back;
And the flowers of a vanished spring-time,
  Will bloom in the spirit's track.

One draught from the living waters,
  Shall call back his manhood's prime;
And eternal years shall measure,
  The love that outlived time.

But the shapes that they left behind them.
  The wrinkles and silver hair,
Made holy to us by the kisses
  The angel had printed there,

We will hide away 'neath the willows,
  When the day is low in the west;
Where the sunbeams cannot find them,
  Nor the winds disturb their rest.

And we'll suffer no tell-tale tombstone,
  With its age and date to rise;
O'er the two who are old no longer
  In the Father's House in the skies.

Positive and Negative Characters.

There is a negativeness of character which is often mistaken for amiability, or impartiality, or some other kindred virtue. The person possessed of it never takes sides on a question of importance enlisting the interest and action of men, and is equally well pleased whichever party wins in the contest. The future of the church, of the government, of society, of man, are of but little account to him so that he is left undisturbed in his quiet, plodding, aimless journey through life. He avoids the opposition, strife and bitterness encountered by the positive man, but then he is practically and for all useful purposes, nobody, accomplishes nothing in life and dies to be forgotten as soon as he is buried.

On the other hand there is a positiveness of character not unfrequently mistaken for hardness, selfishness, arrogance, querulousness.—The positive man has a purpose in life, and in all questions of great interest firmly plants himself on one side or the other and will make himself unmistakably felt, whether the decision be for him or against his cherished views. All matters of public interst engage his best powers and find in him either an earnest advocate or an active, persistent opponent. Men will call him hard names, and some will heartily hate him. But then he is a *force* in the world, and all there is of science, art, education, government, is attributable to him. While he lives he is the only useful element in society, and after his death even his enemies will rejoice at his virtues and vie with his friends in their efforts to perpetuate his memory among men.

Reader, if you have hitherto been trying to slide through the world without opposition, compromising your convictions for the sake of pleasant relations, and sacrificing your manhood or womanhood te a mean and cowardly love of ease or of peace, it is high time that you began the cultivation of a positiveness of character. Be neither self-conceited, arrogant nor dogmatic, but if you can find anything that is worthy to be done, anything that the good of society demands shall be done, *do* it, though it cost you a life-long series of labors, perils, enmities. Be modest, deferential, generous, self-sacrificing, *but by all means have an aim and make your mark!*

CHARITY.—"I always remember that I have boys away from home." Such was the remark we overheard the other night from the lips of an aged mother, who addressed a female friend of hers. It had reference to comments that had been freely made upon the conduct of a young man who was "away from home." We did not see a face of the speaker; but we will wager our existence that a great woman's heart beats under her bodice. She always remembered that she had boys away from home.—There is a word of tenderness and forbearance in this matronly language. It would be well in this age of virulent gossip, if all mothers would acknowledge the potency of the simple social law which this mother had written upon her heart. Her boys were "away from home," and subject to the temptations of those upon whom her netghbor had passed a merciless judgment. She would not so far violate her own instincts as a mother, as to pass condemnatory sentence on the children of any other.

☞ Forty years once seemed a long and weary pilgrimage to tread. It now seems but a step. And yet along the way are broken shrines where a thousand hopes have wasted into ashes: foot-prints sacred under their drifting dust; green mounds whose grass is fresh with the watering of tears; shadows even, which we would not forget. We will garner the sunshines of those years, and with chastened step and heavenward hopes, push on toward the evening whose signal lights will soon be seen swinging where the waters are still and the storms never beat.—*T. W. Brown.*

HEALTH AND DISEASE.

Frost-Bites and Sudden Chills.

[From a treatise on "Frost-Bites, Chills, Exposure, Drowning," in *The Journal of Rational Medicine*, by Prof. C. H. CLEAVELAND, M. D., Editor.]

In the *treatment of frost-bites* it is common to apply snow, and to rub the frozen parts briskly with the snow, apparently with the contradictory notions that the snow will prevent the part frozen from absorbing heat too rapidly, and that the friction of the rubbing will impart warmth. A moment's reflection will suffice to demonstrate that both those notions are without foundation in fact; at least, the indiscriminate application of snow, without regard to its condition, cannot be productive of uniformly beneficial effects. The *temperature* of snow may vary from that just below the freezing

point to that of the temperature of the atmosphere to which it has been exposed; while the temperature of a part while being thawed, cannot be but little below that of congelation. Thus it may happen that snow is from thirty to fifty degrees *colder* than the part to which it is applied, and it must tend to keep the parts frozen, and perhaps make the frost-bite deeper and more extensive instead of thawing that already frozen. Snow just in the process of thawing, and that which is light and feathery, may be applied for a few minutes to a frost-bite when the patient is introduced into a room where the temperature of the atmosphere is considerably higher than the freezing point, but even then only for a short time, as the part frozen must become warmer than snow before vital action can be restored in it.

Many persons while riding having discovered that their nose or ear, or cheek, or fingers had been frozen, have applied snow to the frozen part in the expectation that thus it would be thawed. Whenever the temperature of the snow is and remains below the freezing point, it must tend to keep a frozen organ from thawing, and if much below the freezing point it must have a tendency to increase the extent and depth of the frost-bite. When the weather is cold enough to freeze the toes or fingers when covered up, the snow that is exposed to the atmosphere must be too cold to be placed on a part touched with frost.

If snow not cold enough to increase the freezing is applied to a place that is frozen, so as to keep it from thawing from the surface inwardly, until the natural heat of the body causes the thawing to take place outwardly, then such an application, continued the proper length of time, must prove beneficial; but even when comparatively warm snow is made use of, it should not be applied very long, and never with friction. Any other substance that will protect the frozen part from external cold until it can be gradually thawed by the internal heat of the system from within outwardly, is quite as good, and in many instances better and safer than snow.

When the nose, cheeks, or forehead, or ears are frozen, a shawl, coat collar, or the cap drawn over the part, will usually protect it until it gradually thaws, and the vital functions will be resumed without any dangerous modification. The foot, or hand, when frozen, should remain covered with some woollen fabric, and under no circumstances should more heat be applied to them than the rest of the system requires. They should be kept nearly to the freezing point, and protected cautiously and carefully from the warm air until circulation and innervation are gradually established through them by means of the vital heat of the body. Then they may be allowed gradually to become as warm as the other parts of the system.

The *rubbing* frozen parts with snow or with anything else, which is so often recommended and so uniformly practiced, is invariably injurious and sometimes very destructive. The fluids in the flesh which give pliancy to the soft parts, and which circulate through the vessels in the natural condition, when frozen assume the form and condition of solid minute crystals with angles and points. The solids and semi-solids become rigid, firm, and unyielding, and the effects of bending, compressing, or rubbing a part that is frozen, must be to produce many fractures, bruises, and punctures of the tissues in contact with the frost-crystals; and when the part is thawed these injuries are manifested in swelling, tenderness, soreness, and perhaps gangrene and sloughing, which is due to the mechanical injuries thus produced and not by the congelation.

The rubbing is usually advised under the mistaken notion that the act will generate heat to thaw the part, and also set the blood in motion through it. Rubbing with snow or ice *cannot* thaw a part frozen. The application of a hand or some substance warmer than ice or snow would do so. But friction of the surface even with the warm hand cannot cause blood to flow through vessels that are congealed and closed with frozen crystals farther inward.—Even when the external fluids are thawed, they cannot be made to circulate through a frozen layer, and to thaw them, and thus to allow chemical changes to commence, uncontrolled by vitality, which is suspended by the frozen parts underneath, is, as has been shown, dangerous and never beneficial.

Frost-bites should be treated by keeping the frozen part protected from all undue mechanical pressure, friction, or manipulation; and protected also from any considerable or rapid elevation of temperature until the process of thawing that has commenced inwardly has reached the surface. This protection may be made by the use of any protecting covering that is kept at about, not above, the freezing point, or at 32° of the thermometer of Fahrenheit. Soft and warm snow will do very well, particularly if it is enveloped in a piece of flannel, silk, or linen, as a pocket handkerchief. Moisture applied to a frozen surface never does any good and may do harm. *Cold* water, to wet the cloth that is applied to the face when frozen, or into which to immerse a frozen toe, foot, or finger, may be far better than to let the injured part remain in contact with the warm atmosphere, but because it acts to *shield* the part from warmth and not because it is wet.

After a part has thawed it should be allowed, quite gradually, to resume its normal temperature, still keeping it as free from all disturbance as possible, and certainly free from all forms of friction. Usually if any part of the flesh has been frozen quite solid, when vitality is established the epidermis becomes separated from the dermis, and blebs or blisters are formed by the exudation of the serum of the

blood through the injured vessels. It is usually better to prick such blisters as they form to let out the water, and then dress the parts as burns and scalds are dressed.

Whenever the frost-bite has been very severe and deep. unless the utmost care is taken to have it thaw properly and slowly, the parts are quite apt to slough. Such slough must be managed according to the general principles of surgery. If a bone or a part of a bone has been frozen it is quite likely to die although the frozen portion may never be detached from that which remains alive, but it may become soft and diaphenous, and require amputation or removal.

Whenever a person becomes *Chilled* from somewhat sudden exposure to cold and wet, he not only looses a large share of vital warmth, but a large share of animal galvanism also.—Falling through the ice of frozen lakes and rivers is a common source of this accident. Such accidents are best remedied by squeezing as much water from the garments as possible, or an *immediate* change of them for dry ones, *and plenty of active muscular exercise.*

WIT AND WISDOM.

—No condition is unfavorable to virtue, where virtue is.

—The good man is just in little things, the wicked man is little in great ones.

—If one wishes to unlearn selfishness, let him go apart, and stand alone by himself.

—He that cannot forgive others, breaks the bridge over which he himself will one day want to pass.

—Never allow yourself to be seen with a worse face than you wore for the painter.—*Southey.*

—He who swallows up the substance of the poor, will in the end find that it contains a bone which will choke him.

—A small lie, if it actually is a lie, condemns a man as much as a big and black falsehood. If a man will deliberately cheat to the amount of a single cent, give him opportunity and he would cheat to any amount.

—A sick Wisconsin soldier in Baltimore it was thought gave up the ghost last week. He was laid out, put into a handsome, snug coffin, and made no objections whatever until they began to screw down the lid, when he rose in his cerements and remonstrated against being buried alive. He was uncoffined and put on trial for prevent[illegible] a funeral which had been ordered by a sup[illegible]r officer.

—"What sha[illegible]lp you to?" inquired a lady of a modest youth at the dinner table.—"A wife," was the meek reply. The young lady blushed, perhaps indignantly, and it is said that the kind offices of a neighboring clergyman were requisite to reconcile the parties.

DOMESTIC ECONOMY.

Prize Corn-Bread and Cake.

Sometime since the *American Agriculturist* offered prizes for the best corn bread and cake. A large number of entries were made, and the committee awarded the premiums to such as were made according to the directions herewith published, as found in the report of the committee:

CORN MEAL BREAD.

No. 34.—"Take 2 quarts of corn meal, with about a pint of (thin) bread "sponge," and water enough to wet it. Mix in ½ pint of wheat flour and a table-spoonful of salt. Let it rise, and then knead well the second time. Bake 1½ hours."

This loaf was of beautiful form, cut light, and was of fair quality when three or four days old. Except in color and difference in taste, it resembles a wheat flour loaf.

No. 24.—"Mix 2 quarts of new corn meal with 3 pints of warm water. Add 1 tablespoonful of salt, 2 tablespoonfuls of sugar, ane one large tablespoonful of hop yeast. Let it stand in a warm place 5 hours, to rise. Then add ¾ pint (or 1½ teacupfuls) of wheat flour and ½ pint of warm water. Let it rise again 1½ hours; then pour it into a pan well greased with sweet lard, and let it rise a few minutes. Then bake in a moderately hot oven, 1½ hours. It is *best* when hot."

This was a beautiful, almost crustless loaf, of a pleasant sweetish taste, and good quality. The bottom part was a little heavy, as if not baked quite enough. or not raised sufficiently, but a commendable bread, and rather more palatable than No. 34.

No. 198.—"Take 2 quarts of white corn meal, 1 tablespoonful of lard, 1 pint of hot water. Mix the lard in water; stir it well, that it may get heated thoroughly, and add ½ pint of cold water. When the mixture is cool enough, add 2 well-beaten eggs, and 2 tablespoonfuls of home-made yeast. Bake 1 hour, in a moderately heated oven. If for breakfast, make over night."

This, owing to the whiteness of the meal, and the lightness of the texture, as well as the general appearance of the loaf, greatly resembled the ordinary loaf of wheaten bread on our tables, and is worthy of general adoption where eggs are sufficiently plentiful.

For *taste* and *quality* the above three would stand in order of merit, 198, 24, 34. But taking into account not only taste and quality, but *cheapness* and *little trouble in making*, or "adaptation to general every day family use," we unanimously award as follows:

First Premium of $10 to Number 34.
Second Premium of $5 to Number 24.
Third Premium of $3 to Number 198.

CORN MEAL CAKE.

In this class there was a great variety of specimens. Many of them were very good, and several must be *first-rate* when eaten hot or warm. As cheapness as well as quality were to be taken into account, we finally decided to award the

Corn Meal Cake Premium of $4 to Number 166, made as follows: "Take 3 teacupfuls of corn meal, one teacupful of wheat flour, 2 tablespoonfuls of brown sugar, 2 teaspoonfuls of cream of tartar, and 1 teaspoonful of salt. Mix well together *while dry*. Add 1 teaspoonful of soda (or saleratus) dissolved in warm water. Mix the whole to a thin batter, and bake in a quick oven, ¾ hour. The same batter will bake quicker in patty pans, or on a griddle, like buckwheat cakes."

A Special Premium was placed at our disposal to be awarded to the best Corn Meal Cake of any kind, without regard to cost. This was a difficult task, as there were many specimens all worthy to be called "best;" but after extended examination and consultation, we unanimously agreed to award

Premium of $2 for best Cake of *any kind* to No. 125, made as follows: "Take eight eggs, and their weight in powdered sugar; the weight of six eggs Indian meal; ½ lb. butter, and one nutmeg. Beat the whites, and the yolks of the eggs separately; adding the whites last; bake one hour."

The Committee would also call attention to No. 140, a most excellent cake or pudding suitable for breakfast, or for any other meal, as we found it delicious when eaten cold, and five days old. The directions are as follows:

No. 140.—"Take 2 cups corn meal, 1 cup wheat flour, 1 teaspoonful salt, 2 teaspoonfuls cream of tartar, 1 teaspoonful of soda, 3 eggs, 3 tablespoonfuls sugar, 1½ pints milk, and 1 tablespoonful butter Rub meal, flour, salt, soda and cream tartar through a seive, which will mix them thoroughly. Then beat the eggs and sugar together, adding to them the butter melted. Next add the milk, and last of all stir in the previously mixed meal, flour, salt, soda and cream tartar. Bake immediately and rapidly, (to secure the escaping gas.) Twenty minutes will finish it in a brisk oven."

YOUTH'S CORNER.

Plays for Little Children.

HARE IN THE HOLLOW.

A quarter part of the children sit on their heels, so that they can quickly spring up, the rest, together with the teacher, join hands and form a circle, dancing around them and singing:

Hare in the hollow hear us sing!
Poor hare are you ill,
That you cannot *jump and spring*—
jump and spring, jump and spring?

At the word *jump* they all spring up and run to catch the others, who become the hares, while the first set join the circle and sing:

Hare now be careful,
Sit quite still,
For the hunter is near,
His dogs are running down the hill,
Sit quite still, sit quite still.
Hare now be merry,
Danger is past!
Now hares you can *spring*,
Jump now here, jump and spring,
Jump and spring, jump and spring.

Again the children run to catch the rest at the word *spring*.

THE PIGEON HOUSE.

One fourth of the children go into the midst to represent the pigeons. The rest of the children, with the teacher, join hands, and then lifting them up high, let the pigeons fly out, which they do, by running and moving their hands like wings, when the circle comes to the word free:

We open the pigeon house again,
And set the happy flutterers *free*,
We fly over fields and grassy plains
Rejoicing in glorious liberty.
And when we return from this joyous *flight*,
(*Here they fly back again.*)
We shut up the house and bid them good night.

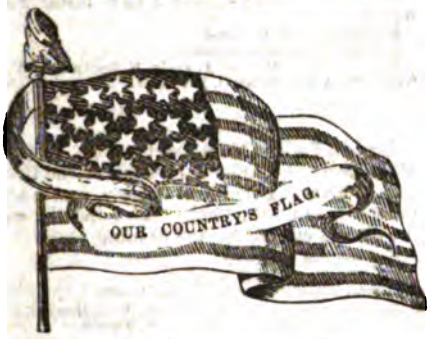
After doing this two or three times, they can sit down, and the teacher can ask them one by one, what they saw in their flight, which is a pretty exercise for their imaginations and in story-telling. The assistant can help the fancy of the dull ones by making them repeat after her some sentences, such as, "I flew over the sea and saw the ships sail," "I flew over the fields and saw the men making hay," etc., etc., etc. A little help of this kind will set their fancies to work wonderfully.

Going with the Girls.

The entrance into society may be said to take place immediately after boyhood has passed away, yet a multitude take the initiative before their beards are presentable. It is a great trial, either at a tender or riper age.—For an overgrown boy to go to a door, knowing well that there are a dozen girls inside, and knock or ring with an absolute certainty that in two minutes all eyes will be upon him, is a severe test of courage. To go before these girls and make a tour of the room without stepping on their toes, and sit down and dispose of his hands without putting them in his pockets, is an achievement which few boys can boast. But having done all this, let him not flatter himself that all the trials of the evening are over.

There comes, at last, the breaking up. The dear girls don their hoods, and put on their shawls, and look so saucy and mischievous, so unimpressible and independent, as if they didn't wish anybody to go home with them.—Then comes the pinch, and the boy who has the most pluck goes to the prettiest girl in the room, with his tongue clinging to the roof of his mouth, and, crooking out his elbow, stammers out the words, "Shall I see you home?" She touches her finger to his arm, and they walk home, feeling as awkward as two goslings. As soon as she is within her own door, he struts home, and really thinks he has *been and gone and done it!* Sleep comes on him at last, with dreams of Harriet and calico, and he wakes in the morning and finds the door of life open to him and the pigs squealing for breakfast.

WAR MISCELLANY.



☞ I am for supporting the government, I do not ask who administers it. It is the government of my country, and I shall give it, in this extremity, all the support in my power.—I regard the present contest with the secesionists a death struggle for Constitutional Liberty and Law.—*John A. Dix.*

The Stars and Stripes.

Flag of the free heart's only home!
By angel hands to valor given,—
Thy stars have lit the welkin dome,
And all thy hues were born in heaven!
Forever float that standard sheet!
Where breathes the foe that stands before us?
With Freedom's soil beneath our feet,
And Freedom's banner streaming o'er us!

[*Rodman Drake.*

Decisive Battles of the World.

The Decisive Battles of the Word, those of which, to use Hallam's words, a contrary result would have essentially varied the drama of the world in all its subsequent scenes, are numbered as fifteen by Prof. Creasey, who fills the chair of Ancient and Modern History in the University of London. They are the grand subjects by him, lately from Bentley's press, and are:

1. The Battle of Marathon, fought 490 B. C., in which the Greeks, under Themistocles, defeated the persians under Darius, thereby turning back the tide of Asiatic invasion, which else would have swept over Europe.

2. The Battle of Syracuse, 416 B. C., in which the Athenian power was broken, and the rest of Europe saved from Greek dominion.

3. The Battle of Arbela, 331 B. C., in which Alexander, by a defeat of Darius, established his power in Asia, and by the introduction of European civilization, produced an effect which may yet be traced there.

4. The Battle of Metaurus, fought 208 B. C., the Romans, under the Consul Nero, defeating the Carthaginians, under Hasdrubal, and by which the supremacy of the great Republic was established.

5. The victory of Armenius, A. D. 8, over the Roman leader Verus, which secured Gaul from Roman Dominion.

6. The Battle of Schalons, A. D. 451, in which Actius defeated Atilla, the Hun, the self-styled 'Scourge of God,' and saved Europe entire devastation.

7. The Battle of Tours, A. D. 735, in which Charles Martel, by the defeat of the Saracens, averted the Mohamedan yoke from Europe.

8. The Battle of Hastings, A. D. 1066, in which William of Normandy was victorious over the Anglo Saxon Harold, and the result of which was the formation of the Anglo Norman nation, which is now dominant in the world.

9. The Battle of Orleans, A. D. 1429, in which the English were defeated, and the independent existence of France secured.

10. The defeat of the Spanish Armada, A. D., 1588, which crushed the hopes of Papacy in England.

11. The Battle of Blenheim, A. D., 1704, in which Marlborough, by the defeat of Tallard, broke the power and crushed the ambition of Louis XIV.

12. The defeat of Charles the XII, by Peter the Great at Pultowa, A. D. 1709, which secured the stability of the Muscovite Empire.

13. The Battle of Saratoga, A. D., 1777, in which Gen. Gates defeated Burgoyne, and which decided the contest in favor of the American Revolutionists, by making France their ally, and other European powers friendly to them.

14. The Battle of Valmy, A. D., 1792, in which the Continental allies, under the Duke of Brunswick, were defeated by the French, under Dumouries; without which the French Revolution would have been stayed.

15. The Battle of Waterloo, 1815, in which the Duke of Wellington hopelessly defeated Napoleon, and saved Europe from his grasping ambition. [Or put back Europe half a century in its progress towards liberty and distinctive nationality, which was only recovered by the Battle of Solferino. (?)]

Gen. Blenker's Speech.—The gallant Gen. Blenker was called on among others for a speech at a recent torch-light procession of the German regiments to Gen. McClellan's head quarters. After Secretary Seward had concluded a brief speech, Gen. Blenker, who speaks our language but imperfectly, came forward, and said:

Citezens and Sojers:—I will say a few werds, and it shall be few. If ever I find the enemy, I will fight tousands, and tousands of us will fight better as I speak dis noble English.—[Immense Cheering.]

NEWS SUMMARY.

DOINGS OF AGRICULTURAL SOCIETIES.

The U. S. Ag. Society.—The United States Agricultural Society to-day re-elected President Hubbard, Secretary Poor, Treasurer French, and nearly all the old Vice Presidents. The Executive Committee was reorganized, and consists of Marshall P. Wilder, of Massachusetts, Frederick Smyth of New Hampshire, Isaac Newton of Philadelphia, Charles B. Calvert of Maryland, Legrand Byington of Iowa, J. H. Sullivan of Ohio, and M. Myers of California.

President Lincoln's recommendation of the establishment of an agricultural and statistical department was warmly commended, and he was elected an honorary member. The suggestions of the President's address were debated and indorsed, and a large edition was ordered to be printed. The establishment of an Agricultural Department was discussed and recommended. There was a decided expression of opinion against National exhibitions, unless they can be held at Washington.

Wis. Ag. and Mechanical Association.—At the Annual Meeting of this Association, recently held in Milwaukee, the following officers were elected for the ensuing year:

President—T. C. Dousman.
Vice Presidents—Alex. Mitchell, H. Crocker, D. Ferguson, W. D. McIndoe, W. Hobkirk, J. I. Case and Edward D. Holton.
Secretary—M. L. Skinner.
Treasurer—H. Ludington.
Executive Committee—S. B. Davis, S. S. Daggett. J. L. Burnham, J. B. Dousman, L. Rawson, L. Sexton and W. D. McIndoe.

It was decided to hold a general Agricultural and Mechanical Fair in the early part of September next, offering premiums not to exceed ten thousand dollars. An additional call of twenty per cent. upon the stock subscriptions was made, payable on the first day of March; and the Executive Committee was authorized to extend the lease heretofore made with Col. C. C. Washburn, for military purposes.

Sheboygan Co. Society.—At the Annual Meeting of the Sheboygan County Agricultural Society for the year 1862, the following persons were chosen officers, viz.:

President—A. H. Van Wie.
Vice Presidents—O. Treadwell, John D. Parish, James Wilford.
Secretary—Chas. L. Gould.
Treasurer—John Richardson.
Executive Committee—J. F. Seely, H. Bodenstab, W. W. Huson, R. H. Hotchkiss, G. S. Graves.

Attest: C. L. GOULD, *Sec'y.*

Green Lake Co. Society.—ED. FARMER, *Dear Sir*:—The Annual Meeting of the Green Lake County Agricultural Society was held at Dartford, Jan. 6th, 1862. The following were the officers elected for the ensuing year:

President—S. M. Knox.
Vice President—M. H. Shipley.
Secretary and Treasurer—M. H. Powers.
Executive Committee—Uri Carruth, M. H. Howard, John Davis, S. B. Toelch, S. R. Davis, G. S. Barnes.

M. H. POWERS, *Sec'y.*

DARTFORD, Jan. 7th, 1862.

STATE MATTERS.

The Markets, &c.—The wheat market is steady in all parts of the country—most too much so for our farmers who have large quantities from which they need to realize fair prices. The quantity in store in the West is very large, and so long as the railroads charge half its value for transportation, but little will go forward. It still seems impossible that the price should not come up to a reasonable figure in the spring; though the first grand movement will so entirely put into requisition every means of transportation on lake and land that a material advance in prices should not be expected until after the first load or two shall have been shipped.

Improvement in the grain market will be likely to be followed by an advance of pork and beef also.

NEW YORK PRICES, JAN. 30.

Wheat—Market quiet. But little disposition to buy or sell.

Pork—Firm; sales 2,300 bbls. at $12@13 mess; $8 50@9 50 prime. Dressed hogs steady, $4@4 75.

CHICAGO PRICES, JAN. 30.

Wheat—No. 1, 74@74½; No. 2, 68½@69.

Pork—Mess, firm at $4 37½; dressed hogs 5c. higher ($2 60@2 80); live hogs firm at $2 25@2 40.

MILWAUKEE PRICES, JAN. 30.

Wheat—Quiet and steady, 72@75c for receipts in store; milling, 75@76c.

Pork—Mess, higher, owing to scarcity of cooperage; dressed hogs, firm, with an upward tendency, $2 50@2 70; live hogs, steady at $2 30.

Beef Cattle—$2 00@2 75.

MADISON PRICES, JAN. 31.

Wheat,	56@62c.	*Oats*,	20@22c.
Rye,	27@30c.	*Barley*,	25@35c.

Political.—The inauguration of the State officers for the term ending Jan. 1, 1864, was unusually impressive. The oath was administered on the East steps of the Capitol in the presence of a large body of citizens and some two thousand soldiers from Camp Randall.—Appropriate speeches were made by the outgoing and incoming Governors, and the occasion was further celebrated by the burning of an unusual amount of powder. The reception in the evening was a pleasant affair.

The Governor's Message was delivered in person and is considered an able document. It exhibits in a clear and forcible manner the condition of the finances of the State and the true character of the burdens of taxation; recommends the adoption of measures for inviting capital and labor for the developement of our resources—said measures being exemption from taxation and a reduction of the rates of interest; urges a continuation of the policy of keeping clear of debt, and the importance of an amendment to the Constitution "depriving counties, cities and towns of power to contract debts in future, except in the arrangement of existing embarrassments;" and concludes with an earnest appeal to the Legislature and people to sustain the Administration in its efforts to maintain the supremacy of the Constitution and the Laws of our country.

In the organization of the working force in the several departments of the State, the selections seem, in the main, to have been well made.

No Laws of great importance have yet been enacted though several bills of public interets are pending; among which are one increasing the tax upon railroads; one for the repeal of the Library Law of 1859–60, restoring the accumulated fund to the sources from which it was taken; one for the repeal of the Dog Law, and *one for the repeal of all laws making appropriations to the Agricultural Societies of the State!*

There seems to be a general desire to *retrench*, but a most astonishing lack of judgment as to where retrenchment should be made.

The Senate was promptly organized by the election of Hon. J. H. Warren, Chief Clerk, and Bloom U. Coswell, Sergeant at Arms.—The following are the

STANDING COMMITTEES:

Judiciary—Messrs. Spooner, West, Flint, Hudd and F. O. Thorpe.
Finance—Messrs. Foot, Cole and Hopkins.
Incorporations—Messrs. Kingston, Clark and Bartlett.
Roads, Bridges and Ferries—Messrs. Cate, Jenkins and Cunning.
Town and County Organization—Messrs. Bartlett, Pratt and H. S. Thorpe.
Militia—Messrs. Hay, Cary and Rich.
Privileges and Elections—Messrs. West, Quentin and Utley.
Agriculture—Messrs. Jenkins, Montgomery and Cole.
Legislative Expenditures—Messrs. Flint, Keogh and Kingston.
State Affairs—Messrs. Hopkins, Hicks and Humphrey.
Education—Messrs. Cary, Mitchell and Hazelton.
Banks—Messrs. Kelsey, Quentin and Spooner.
Claims—Messrs. Bean, Rich and Joiner.
Internal Improvements—Messrs. H. S. Thorpe, Keogh and Young.
Engrossed Bills—Messrs. Humprey, Keogh and Wilkinson.
Contingent Expenses—Messrs. Young, Hudd and Jenkins.
Public Lands—Messrs. Wilkinson, Hicks and Kingston.
Enrolled Bills—Messrs. Bartlett, F. O. Thorpe and Hay.
State Prison—Messrs. Utley, Mitchell and Hay.
Railroads—Messrs. Joiner, Kelsey, Foot, Rich and Hicks.
Benevolent Institutions—Messrs. Montgomery, Cole and Hazelton.
Printing—Messrs. Browne and Cole.
Federal Relations—Messrs. Hazelton, Hicks and Browne.
Joint Committee on Investigation—Mr. Bean.

The Assembly was organized after considerable party strife, by the election of a "Union" Speaker—J. W. Beardsley, of Prescott—and John S. Dean, Chief Clerk. The following are the

STANDING COMMITTEES:

Judiciary—Messrs. H. L. Palmer, J. T. Mills, E. Jussen, H. W. Barnes and Wm. Dutches.
Ways and Means—Messrs. Allen C. Bates, C. H. Upham, L. D. Gage, C. D. Combs and G. W. Elliott.
Education, School and University Lands—Messrs. H. W. Barnes, A. S. McDill, W. H. Chandler, Thomas, Butler and Fred. S. Ellis.
Incorporations—Messrs. E. Jussen, J. E. Thomas, J. S. Tripp, John Boyd and J. B. Crosby.
Railroads—Messrs. C. H. Upham, H. T. Moore, J. V. V. Platto, O. B. Thomas, George, R. Stunts, F. S. Ellis, R. B. Sanderson, Campbell, McLean add B. F. Adams.
Internal Improvements—Messrs. J. M. Rusk, L. Semman, R. Wilson, Sam'l Thompson and G. W. Brown.
Roads, Bridges and Ferries—Messrs. C. C. Pope, Robert Salter, E. Palmer, E. K. Rand and H. Kirchoff.
Town and County Organizations—Messrs. W. C. Webb, C. B. Stevens, H. S. Thomas, G. H. Hall and C. Hoeflinger.
Militia—Messrs. Johnathan Bowman, J. M. Rusk, R. L. Bassett, James Catton and Orrin Guernsey.
Privileges and Elections—Messrs. D. R. W. Williams, J. H. Vivian, Hollis Latham, Geo. Abert and W. W. Field.
Agriculture and Manufactures—Messrs. B. Rockstader, Thomas Barry, D. R. Bean, N. B. Howard and A. Nichols.
Expiration and Re-enactment of Laws—Messrs. Wm. Dutcher, Geo. A. Gregory, W. E. Hanson, J. F. McCollum and Michael Maloy.
Legislative Expenditures—Messrs. W. W. Field, J. A. Schlitz, J. M. Stowell, N. M. Matts and M. Hogan.
State Affairs—Messrs. Q. H. Barron, H. T. Moore, S. Hanson, W. W. Reed and Samuel Newick.
Contingent Expenditures—Messrs. J. S. Tripp, J. G. Mayer, Mile Coles, W. W. Hatcher and James Cahill.

Engrossed Bills—Messrs. Samuel Rounsseville, Godfrey Stamm, D. D. Hoppock, O. Brown and R. Palmer.

Enrolled Bills—Messrs. C. D. Combs, S. D. Hubbard, J. R. Thomas, A. Nichols and C. McLean.

Mining and Smelting—Messrs. Allen Taylor, C. R. Jennings, Wm. Brandon, R. Wilson and C. D. W. Leonard, A. W. Starks, B. F. Adams, Ole Johnson and H. C. Hamilton.

Charitable and Religious Societies—Messrs F P Arnold, A W Starks, B F Adams, Ole Johnson and H C Hamilton.

State Prison—Messrs. A. W. Starks, Q. H. Barron, Jas. Wadsworth, H. F. Watrous and Samuel Miller.

Medical Societies and Medical Colleges—Messrs A S McDill, John H Vivian, H W Boyce, O B Jennings and W W Reed.

Banks and Banking—Messrs H W Boyce, A S Seaborn, W A Vanderpool, D R Bean and Allen C Bates.

Federal Relations—Messrs J T Mills, H C Hamilton, H L Palmer, E Jussen and T B Stoddard.

Swamp and Overflowed Lands—Messrs Geo R Stunts, D R W Williams, John Banister, Geo A Gregory and P J Shumway.

Joint Committee on Claims—Messrs C F Hammond, W S Green, Allen Taylor, Hollis Latham and O Brown.

Joint Committee on Investigation—Messrs J V V Platto and Johnathan Bowman.

Joint Committee on Printing—Messrs Orrin Guernsey, H C Griffin, Wm Brandon, W E Hanson and P D Gifford.

Joint Committee on Local Legislation—Messrs W H Chandler, Peter Rogan and Adam Finger.

Military.—The condition of the Wisconsin regiments at last accounts, is as follows:

INFANTRY.

1st. Reg't, Col. J. C. Starkweather, at Camp Wood, Mumfordville, Kentucky.

2d. Col. O'Connor, Camp Tillinghast, Arlington Heights.

3d. Col. Rugee, Frederington, Md.

4th. Col. Paine, Baltimore.

5th. Col. Cobb, Camp Griffin, near Lewinsville, Va., 12 miles from Washington.

6th. Col. Cutter, Camp Tillinghast.

7th. Col. Van Dor, " "

8th, Col. Murphy, Cairo.

9th. Col. Frederick Salomon, Fort Leavenworth.

10th. Col. A. R. Chapin, Bacon Creek, Ky.

11th. Col. Harris, Sulphur Springs, Mo.

12th. Col. Bryant, Weston, Mo.

13th. Col. Maurice Moloney, Fort Leavenworth.

14th. Col. Wood, Fond du Lac.

15th. Col. Hans C. Heg, (Scandinavian,) Camp Randall.

16th. Col. Allen, Camp Randall.

17th. Col. John L. Doran, Camp Randall.

18th. Col. Wood, Camp Holton, Mil.

19th. Col. James S. Allen, Camp Utley, Racine.

CAVALRY.

1st. Col. Daniels, Camp Harvey, Kenosha.

2d. Col. C. C. Washburn, Camp Washburn, Milwaukee.

3d. Col. Wm. A. Barstow, Camp Barstow, Janesville.

Von Deutsch Cavalry, of Mil. (Benton Hussars,) at Sulphur Springs, Mo.

ARTILLERY.

1st Battery, Capt. Foster, Louisville, Ky.

2d " Capt. Herzburg, Ft. Monroe.

3d Battery, Capt. Drury, Louisville, Ky.

4th " Capt. Vallee, Ft. Monroe.

5th " Capt. Pinney, Camp Utley, Racine

6th " Capt. Dillon, " "

7th " Capt. Griffin, " "

8th " Capt. Carpenter, " "

9th " Capt. Johnston, at Burlington, Racine County.

10th Battery, Capt. Bebee, at New Lisbon, Juneau Co., (at quarters,)

Wis. Co. Sharp Shooters, at Camp Burnside, near Washington.

Company 1st. Wisconsin Heavy Artillery, Capt. A. J. Langworthy, Fort Cass, (late Fort Runyon,) near Washington City.

There seems to have been a good deal of sickness in camp thus far during the winter, but perhaps not more than should have been anticipated from the unaccustomed exposure to which the soldiers have necessarily been subjected. *Active service*, if they should ever be so fortunate as to see anything of that kind, will improve them.

NATIONAL AFFAIRS.

The War for the Union.—With the exception of a brilliant skirmish near Somerset, Kentucky, in which the enemy were gloriously put to rout by an inferior number of Union troops, with a loss of Gen. Zollicoffer and 600 soldiers killed,—— wounded and prisoners, 16 pieces of cannon, 1400 horses and mules, ———wagons and other valuable property, nothing has been done within the past month. Several expeditions, and important forward movements are *talked of*—by the *papers!*

Gen. McClellan has been before a Congressional committee and fully satisfied them, first, that he has a plan, and secondly that it must succeed in putting a speedy end to the rebellion. Glad of it; but give us the *deeds*, pretty soon.

Simon Cameron, Secretary of War, has resigned his place and received the appointment of Minister to Russia, vice Cassius M. Clay, who has resigned to enter the Army. E. M. Stanton of Pennsylvania, has been appointed Secretary of War in his stead.

Gen. James Lane, of Kansas, has resigned his seat in the U. S. Senate, and been appoint-

ed to the command of the Division, with authority to raise an army of 80,000 men to march South through Kansas, into Louisiana and Texas.

Gen. Burnside's Expedition down the coast with a fleet of 125 vessels of all classes, met with a terrible storm off Hatteras, and suffered a loss of several ships.

Congressional.—Congress has done but little that is especially worthy of note during the past month. Bills curtailing the franking privilege of members and heads of departments, for raising money, for punishing spies, and for the regulation of the Sanitary and Commissary departments of the army are pending. The Senate is just now busy with the question of Jesse D. Bright's expulsion from that body, and will yet occupy some time in *cussing* and discussing his traitorous conduct.

FOREIGN AFFAIRS.

The war sentiment in England is considerably softened since the release of Mason and Slidell. It now seems doubtful whether Johnny will be able to get up another so good a pretext for fighting Uncle Samuel until the latter shall be in a condition to make his attack a sorry job. Lord Shaftesburg is reported to have expressed a desire for the overthrow of this Government on the ground that we are fast becoming a dangerous rival, and unless checked must eventually be an overshadowing power. It is proper to say however, that we do not credit the report.

Portugal sides with Engtand, in the Trent or Mason and Slidell affair. Russia still maintains the position of a true and faithful friend.

Italian patriots are looking to the spring as the time for the re-opening of a war with Austria. Mazzini is in precarious health and will probably not survive a great while. The eruption of Vesuvious increases. Eleven active craters have recently opened.

Russian political troubles continue but do not seem to thicken. At Novogorod a vast group of colossal figures is being erected to commemorate the thousandth anniversary of the Russian Empire. The time is computed from A. D. 862, when Rurik, coming from Roslagen in Sweeden, established himself at Novogorod.

Mexico is consolidating and rallying against her Spanish invaders. 62,000 men have been already offered to the Government, and 150,000 are expected with 100 parks of artillery.—Minister Corwin has given up all hopes of negotiating a treaty and proposes to return home.

EDITORIAL MISCELLANY.

Industry and Legislative Retrenchment.—We are in the midst of a war which must tax the energies of the people to their utmost. Money is being poured out of the treasury at the rate of $2,000,000 per day for the mere support of the army. The waste of property of various kinds and in numerous ways, together with the loss which cannot but result to the country through the paralysis of commerce and of certain branches of the Mechanic Arts and from the turning of a vast amount of productive labor into channels of destructive effort, will probably swell the sacrifice to twice the amount, or to four millions per diem!

How long this sacrifice must continue it is impossible to predict. But for one year alone the aggregate material loss to the country will fall but little short of one billion, five hundred millions of dollars!

Hence arises the important practical question, "How is this vast amount to be raised? How the almost incomputable debt which must accumulate, should the war continue for years, to be paid?

It cannot be paid by borrowing; that's a sure case.—No debt is really paid by borrowing. Shift's may be made for a time in that way, but in the end the whole amount, even to the last farthing has got to be *earned* by the sweat of toil. We may frame a tariff which will give us a large revenue; but a tariff necessarily implies *articles* on which duty is to be paid by the importer, and thus involves the idea of a purchaser, who must have means for the purchase, else the importation is at once stopped.—Means, in turn, imply a source, and that source is *labor*. There is no other. Industry is the great reservoir from which all our wealth is to be drawn—the only sure and permanent basis for the prosperity of any people.

These are palpable truths, and yet some of our legislative Solons refuse to recognize them. They have the general idea, that in times like these, retrenchment should be the watchword. And so it should; but it should be of that kind which a wise economy would sanction—not of that blind and stupid sort which would take from the faithful,

hard working man his daily rations of bread and meat because they cost money; not that policy which would prompt a man to sell the foundation from under his house that he might provide his parlors above with more elegant furniture.

Let our Legislators retrench in every rational way; but let them not tap the reservoirs of power and then try to lift themselves over the fence by the straps of their boots: the thing can't be done. Let them begin with the thousand and one superfluities for which the people are compelled to pay their money, and when they get through with that job, it may not be out of place to raise the question, whether our Agricultural Societies and other industrial associations which have done and are doing so much to develope the resources of the State and to give Wisconsin an honorable rank among the most enterprising and prosperous States in the Union, should not be deprived of the little aid they have hitherto received through legislative enactments.

The Dog Law Again.—The *Dorg* has become an important institution in Wisconsin. He not only retards the progress of wool-growing to the amount of some hundreds of thousands of dollars dead loss per annum, but likewise saddles quite a tax upon the people of the State through the periodical and protracted legislative discussion of which he is the unfailing occasion.

The law of 1859-60, though it may be inoperative in some localities, because of a lack of pluck and energy, on the part of those whose duty it is to see it enforced, is nevertheless a good law and has done much for the encouragement of sheep husbandry in some portions of the State.

A similar law operates finely in Massachusetts, and we can see no reason why it should not succeed in Wisconsin, unless the farmers of the old Bay State have more intelligence and public spirit, which we presume no Badger farmer will be likely to admit. No law is *invariably and to the full extent* enforced. But is that a sufficient reason for the abrogation of all law?

One thing especially speaks well for the present law: whenever it has been faithfully enforced, the people have come, not only to acquiesce in it, but to deprecate its repeal.

We have no idea that it will be seriously interfered with, this winter, though we are informed that some member who represents a *large dog interest* is pledged to do his best against it. To him and to all others who concur with him we would say: *Let the law alone gentlemen, unless you are very sure of giving us a better one.*

Sheep Husbandry in New Mexico.—We have just received, too late for publication in this number, another very interesting letter from the pen of Judge KNAPP, of the U. S. Court of New Mexico, on New Mexico as a Country for Wool-growing. It will not spoil, however, by being laid over one month, and may be looked for in the March No.

To Non-Subscribing Readers.—Of the nine thousand five hundred copies of the February No. some will be sent to persons who are not regular subscribers.—Our object in doing this is to give to as many as possible of the friends of industry in the Northwest who may not have seen the FARMER, an opportunity to learn something of the character of the journal, which, for 13 years has been working for the promotion of all the great material interests of this portion of our country. If it should happen to fall into the hands of some farmer, who, during the whole period of its existence, has been either "farming it on his own hook" or patronizing some foreign magazine, he will pardon us for insisting, First, that no man, however wise, possesses so much wisdom that he can learn nothing from the experience and observation of other men, and secondly that it is the duty of every farmer, who has the ability, to aid in the support of those agencies which are specially and most intelligently devoted to the progress of his own State, and the good of the occupation to which he belongs.

We are determined to go ahead whether those for whom we labor appreciate our efforts and sacrifices or not; but it would nevertheless, be very gratifying to receive substantial evidence that those labors are not disregarded by the very class of men whom they are chiefly intended to benefit.

Again, we say, carefully examine this number. It is no better than the average during the year. If you like it send us your name and dollar; if not, keep the dollar and be good enough to give the FARMER to some neighbor who may esteem it of more worth than the small amount of its subscription price.

Added Force.—"The harder the times, the harder the work." Appreciating the force of this maxim, we have just recently added to our working force by associating with us in the Publication Department our worthy friend and former book keeper, C. M. Campbell, Esq., of this city. Mr. C. was among the first to answer the call of his country when the First Wisconsin Regiment marched upon the traitorous foe, and now that the army rolls are full, and more men are offered than can be employed in the defence of the Constitution and the Laws, he has wisely decided to give his efforts to the work of helping forward the cause of industrial improvement—more worthy and more in need of help now than ever—through a more extensive circulation of the FARMER in this and the neighboring States. He will have immediate charge of the Circulation Department of the business of publication, and we bespeak for him the cordial cooperation of all our local agents and working friends throughout the country.

The Farmer for Premiums.—Knowledge is worth more than money. We hope our friends, the officers of County Agricultural Societies will remember this in making up their lists of premiums for 1862, and use as many copies of the FARMER as may be consistent with the best interests of their respective organizations.

Don't Wait for Others.—There is an old saying running in this wise: "*If you want anything done, go and do it.*" It *is* still good, sound advice, as appears by the following, from one of our true and faithful friends. There are 60,000 farmers in Wisconsin who ought to be classed among our regular subscribers, and if each of our present readers would persuade a half dozen of his neighbors to do so, we might have that number of names on our Subscription Book. Will not each subscriber send us *at least one* other name?

ROSENDALE, January 19th, 1862.

FRIEND HOYT:—Enclosed find one dollar for the WISCONSIN FARMER for this year, I have been waiting for some one to start a club but no one appeared to do any thing in the matter. I have been a subscriber to it nearly all of the time since its first publication. I like the tone of the paper; wish that it had a much larger circulation. I have often thought how very negligent most farmers are to their own interest in letting a paper devoted to their good maintain a struggling existence simply for the want of the little help they could so easily render. Never mind; I trust there is a large number of sterling friends who will stand by you in your efforts to keep up the best agricultural paper in the West, notwithstanding the tightness of the times, and then with the return of prosperity to the country the circulation of the FARMER will more nearly equal its high merit.

Send it along to me, and calculate on all the assistance it is in my power to render you. H. W. WOLCOTT.

New Elevator.—We are glad to learn that one of our most enterprising Warehouse firms is about commencing a new Elevator on the North Branch, to be used mainly, we believe, for receiving grain which comes in over the Chicago and Northwestern Railroad. It will be of the largest size, and built in the most substantial manner, and will be completed at an early day. It will be furnished with ten of Fairbanks' five hundred bushel Hopper Scales, each one of which, so perfect will be the machinery, can be loaded to its full capacity and the load discharged in a few minutes. This shows the immense amount of grain which can be handled in this Elevator, and is a sufficient guaranty to farmers as well as receivers and shippers, that correct weights will be given.—*Chicago Tribune.*

The World's Fair.—Persons desirous of contributing articles to the Great International Exhibition cannot do better, we believe, than to entrust their transportation to THE MORRIS EXPRESS, New York. The last No. of the FARMER contained a full statement of their rules, rates, London Agencies, &c. We expect to be in London, ourself before the opening of the Exhibition, and will endeavor to see that no Western contribution is overlooked or slighted.

"Uncle William" will entertain the readers of the "Corner" next month with an illustrated story of the Flying Squirrel.

Better Late than Never.—At the last State Fair, Samuel Charlesworth, Esq., of Omro, was the successful competitor in the exhibition of "Suffolk Sows, two years old and over." The published list made it appear that the award was made to J. V. Robbins, of Madison—an error for which our own transcribing clerks were responsible. Our attention, as Secretary of the Society, was called to the mistake during the early spring, and we immediately corrected the record, forwarded the $10 to Mr. C., and promised to publish in the Farmer.—But somehow the slip prepared for the paper was mislaid, and our memory, relieved by the act of writing the notice, no longer held the publication of it as a thing *yet to be done.*

We hope our friend Charlesworth will pardon the omission, and that as a breeder of superior Suffolks he may continue to flourish as heretofore.

Agricultural Legislators.—In the Senate, 11 of the 33 members are farmers, and in the Assembly the proportion is still larger. It has been said repeatedly in other years, that, as a class, the agricultural members of the Legislature have shown more narrowness and prejudice towards the institutions and agencies in operation for the promotion of the industrial interests of the State than have the members of the other professions. It remains to be seen whether there is any real truth in this statement, as applied to the present Legislature.

NOTICES OF NEW ADVERTISEMENTS.

The Madison Mutual Insurance Company.—We publish in this number a statement of the fiscal affairs of this highly prosperous and popular Company for the year 1861, together with a concise summary of its plan of operations.

We are pleased to see that even the remarkable results of 1860 have been greatly exceeded, notwithstanding the pinch of the times and the general derangement of business. Probably no other company in the United States can boast of such a career as this institution has had during the past three years. Certainly none in the West has flourished in like manner; from which three conclusions are deducible:—First, that its plan of operations is sound and judicious; secondly, that its business has been entrusted to able, energetic and faithful men; and thirdly, that the property holders of Wisconsin are coming to realise more fully the importance of securing themselves against the ordinary risks of loss and of doing so in the safest and most economical manner.

The officers elect are men eminent for their financial ability and moral integrity. With such a system and with such management, this Company is deserving of the extraordinary success which has made it so conspicuous among the insurance companies of the country.

See Mr. Powers' advertisement of a superior Grain Drill and Horse Rake.

Messrs. Plumb, Willey & Co. have a new advertisement in this No. of all sorts of nursery stock. They are

well posted in the matter of Fruit Growing in Wisconsin, and are determined to please their customers.

Messrs. Fenwick & Lawrence, Washington city, advertise their Patent Agency. We have reason to consider them prompt and reliable men.

Flower Seeds.—Mr. Meissner is a careful cultivator of flowers and vegetables, and the seeds he offers for sale are undoubtedly more reliable than those purchased in the East.

Wm F Porter advertises for Sheep.

STATEMENT
OF THE
Madison Mutual Insurance Company,
FOR THE YEAR ENDING
JANUARY 1st, 1862.

Made to the Governor of the State of Wisconsin, as required by the provisions of chapter 303, of the General Laws of 1858.

Total amount of accumulations,		$216,865 76
ASSETS:		
Premium notes of policy holders	$180,124 63	
Cash on hand, and due from policy holders for cash premiums,	35,408 66	
Am't secured by mortgage and judgment,	332 47	
Office furniture and fixtures,	1,000 00	$216,865 76
Whole number of policies issued,		14,357
Am't of outstanding risks thereon,		$10,320,789 00
Reported losses awaiting further proof,		3,709 80
Losses recently reported,		3,433 89
Whole number of policies issued in 1861		5,778
Amount of outstanding risks thereon,		$5,315,173 00
Amount of premium notes thereon,		93,944 06
Amount of cash premiums thereon,		48,377 36
Total amount of losses reported during the year,		15,801 13
Total am't of losses paid during the year,		6,881 16
Amount settled by drafts and awaiting the call of the insured,		1,568 85
Amount of commissions paid to Agents,		7,460 84
Am't paid for Advertising,	$1,625 20	
Amount paid for printing,	811 00	
Amount paid for postage,	366 22	
Amount paid for office rent,	200 00	3,002 42
Expenses paid, including all compensation of officers and directors—stationery, extra clerk hire, fuel, lights, and all other incidental expenses,		6,009 56

STATE OF WISCONSIN, } ss.
DANE COUNTY,

We, the undersigned, being the President and a majority of the Directors of the "Madison Mutual Insurance Company," do solemnly swear, and each for himself saith, that the foregoing is a true and correct statement of the affairs of said company in the particulars therein named, as appears by the books of the company, according to the best of our knowledge and belief.

D. J. POWERS, President.
JOHN W. BOYD,
SAMUEL D. HASTINGS,
B. F. HOPKINS,
TIMOTHY BROWN,
ALBERT WOOD,
G. F. HASTINGS,
H. H. GILES,
SAM'L R. McCLELLAN,
G. R. MONTAGUE,
ORRIN GUERNSEY,
LUTHER BASFORD,
DAVID ATWOOD,
D. WORTHINGTON.

Subscribed and sworn before me this sixth day of January, A. D. 1862. V. W. ROTH, Notary Public, Dane County.

Comparative Statement of the business of the Company for the years 1859, 1860 and 1861:

	1859.	1860.	1861.
Total amount of accumulations,	$39,080 95	$110,389 49	$216,865 76
ASSETS:			
Premium notes of policy holders,	$35,462 46	$92,457 27	$180,124 63
Cash on hand, and due from policy holders for cash premiums,	2,986 62	16,509 74	35,408 66
Amount secured by mortgage and judgment,	332 47	332 47	332 47
Office furniture and fixtures,	300 00	1,000 00	1,000 00
Whole number of policies issued,	4,807	8,679	14,357
Am't of outstanding risks thereon,	$2,409,950 49	$5,451,115 49	10,320,789 00
Total am't of losses paid and settled,			216,865 76
Losses reported and awaiting further proof,	2,409 45	5,903 31	8,460 01
Whole number of policies during the year,	1,187	3,772	5,778
Am't of outstanding risks thereon,	$1,140,076 00	$3,916,115 49	$5,315,173 00
Am't of premium notes thereon,	17,709 82	68,789 45	93,944 06
Am't of cash premiums thereon,	11,059 04	35,761 68	48,377 36
Am't of commissions paid to Agents,	3,317 70	10,369 18	7,460 84
Am't of expenses paid, including all compensation of officers, printing, advertising, postage, and all other incidental expenses,	3,317 51	5,847 44	6,071 89

The foregoing statement of the business of this Company for the past year gives a gratifying evidence of its high standing in the public estimation and of the success of its rules and principles of action.

Although its business for the preceding year (1860) was much larger than that of any previous year, and notwithstanding the general depression among farmers the past season, arising from light crops and low prices, the above figures show an increase of nearly *seventy per cent.* in the number of policies issued, and of *over seventy per cent.* in the amount of cash premiums for the past year.

We invite a careful examination of this report. Its figures make a stronger argument than any form of words, and prove a rise and standing in popular favor unparalleled in the history of the Northwest.

DIRECTORS AND OFFICERS FOR THE YEAR 1862:

DIRECTORS.

J. W. BOYD, Walworth County.
B. F. HOPKINS, Dane County.
D. WORTHINGTON, Waukesha County.
S. D. HASTINGS, Trempelean County.
G. F. HASTINGS, Dane County.
DAVID ATWOOD, Dane County.
G. R. MONTAGUE, La Crosse County.
S. R. McCLELLAN, Kenosha County.

THE WISCONSIN FARMER.

J. W. HOYT, : : : : : : : : : : EDITOR.

VOL. XIV. MADISON, MARCH 1, 1862. No. 8.

Work for March.

March is a border month—a nondescript, neither winter nor spring, though rather belonging to the former than the latter, in this climate. Rough winds and alternate freezing and thawing characterize it. It is nevertheless crowded full of demands upon the energies of the farmer; and he who does his work well now will be ahead of time during the busy months of spring and summer and reap a rich reward of his enterprise in the fruit-bearing days of autumn.

WORK FOR BAD WEATHER.

To this end, during the stormy days overhaul all your implements and see that they are properly repaired and fitted for early and uninterrupted use. The provident farmer will have few break-downs in the field or in the harvest.

Collect and prepare your field and garden seeds of every intended variety. Spare no pains to get the *best*. *Good seed is always a paying investment.*

Make your arrangements for a fair quantity of good hardy fruit-trees well adapted to climate and soil. The fruit-growers of Wisconsin are much better posted now than they were six years ago as to varieties, exposures, planting and cultivation. Trust to their judgment rather than to the irresponsible hucksters who annually peddle and too often swindle in all parts of the Western country. *Be in time.*

Poles, brush, stakes and labels, designed for the garden, should all be made ready while but little else can be done.

There is yet another work that must not be neglected, and which can be attended to without regard to weather. We refer to the grinding and chopping of food for stock. February and March are the most trying months on all classes of domestic animals, and many a farmer loses a good share of the benefit of good keeping through the winter, by letting his stock run down in the early spring. Work horses and cattle, and breeding animals of every kind must have extra good care just now. Don't forget it.

WORK FOR GOOD WEATHER.

The clover which you have been promising yourselves and your more thrifty, systematic neighbors, for two or three years should be sown each successive spring, should be neglected no longer. In March, after a light snow, is a good time for the seeding.

Fork over the compost heap and haul out all manure that can be economically used, while the sledding is yet good.

All who have maple groves will, of course, make an extra effort this month to draw from them all the sweetness they can be made economically to yield.

All who have not laid in a good stock of ice will naturally consider this their last chance. It is a great luxury in the hot weather of summer, and may just about as well be enjoyed as not.

Plowing should commence as early as the furrows will turn up without packing; *not before.* Observe the golden mean in all these important farm operations, but never, on any account, be *behind* time.

Wisconsin Industry and the State Ag. Society.

Believing that the State Agricultural Society, while it is doing so much to promote the industrial interests of Wisconsin, might prove a yet more efficient agency if properly encouraged and strengthened by those farmers and friends of industry who, now, through misapprehension, refuse their hearty co-operation, we have determined to publish from time to time, in the FARMER such reports of its plans, operations and condition as may be interesting to the public.

A full detail of the doings of the Society is published from year to year in the vol. of "Transactions," but as the publication of this is often delayed by illiberal legislation until that detail has lost a portion of its interest a brief current summary in the FARMER will no doubt be acceptable to the public and tend to further the interests of the organization. The following Report of the Executive Committee for the year 1862 makes a plain and candid showing of the condition of the Society at the present time as well as of the reasons therefor, and will be read by all who desire the promotion of the worthy objects with a view to which it was established:

To His Excellency, LOUIS P. HARVEY,
Governor of Wisconsin:

SIR—The Executive Committee of the Wisconsin State Agricultural Society, in presenting the Eleventh Annual Fiscal Report, herewith submitted, desire to congratulate you and the people of the State upon the comparative prosperity with which Wisconsin has been favored during the past year.

In times of political revolution, like the present; when the Government is rocked to its very foundations; when one-thirtieth of the whole population are in arms; when the commerce of the country is seriously damaged, and the public mind is occupied, almost to the exclusion of everything else, with the great problem of continued national existence, —in times like these, it is certainly very extraordinary that our youthful State should have moved forward in a career of growth and prosperity scarcely surpassed during any year of its history since the palmy days before the financial crash of 1857.

This anomaly is doubtless owing, in some degree, to our remoteness from the actual scene of hostilities, and our consequent immunity from the desolations liable to fall upon the border States; but it is likewise and largely due to the fact that we are an agricultural people, producing immense quantities of the great food staples which must always sell at some price, and which are usually enhanced in value, in time of war.

It is also an occasion for congratulation, that the times have shown the population of our State to be unsurpassed in hardiness, industry, energy and productive capacity by any people on the globe. Nearly one-seventh of our adult male population have left the avocations of peace and entered the ranks of war, and the distraction of attention and interest on the part of those who have remained at home must have still further diminished the productive force of the country. The crops of various kinds were nevertheless gathered without material waste, and the granaries of Wisconsin are to-day full of the evidences of the extraordinary enterprise and energy of her farmers.

The wheat crop of the past year, though but little more than half as large as the great crop of 1860, nevertheless fell but ittle, if any, short of the average for several previous years.—Owing to the inadequacy of the means of transportation, however, much of it is yet unsold, and the prices, thus far, have been far from remunerative. To remedy this deficiency, many new vessels are being constructed for our lakes, and it seems almost certain that, after the first great movement in the Spring, the prices will advance to fair and rumunerative rates. Other crops compare favorably, as to yield, quality and pecuniary returns, with the general average of years.

The extraordinary yield of fruit of all kinds has been a happy circumstance for the fruit-growing interests of the State, as many who had been discouraged by previous failures, will now begin the work of planting and cultivating in good earnest.

Every year adds perceptibly to the improvement of our stock, and very many localities are now able to boast of horses, cattle, sheep and swine of the most approved breeds. There is much to be done in this direction, however, and it is the purpose of the State Agricultural Society to do yet more than heretofore in the way of stimulating our farmers to a healthy competition, and of directing their efforts, by means of the inculcation of correct principles of breeding.

Wool-growing has derived considerable advantage from the law for the protection of sheep, approved March 23d, 1860, and it is hoped that there will be no retrograde movement on the part of the Legislature in relation thereto. The efficiency of the law may possibly be increased, but it should by no means be repealed, so long as it accomplishes any measure of good.

Many rational improvements in the system of farming, embracing the important operations of draining, subsoiling, manuring and

the rotation of crops, are being carried forward with spirit by our farmers in various localities, and there is a growing spirit of enquiry as to the advantage of these processes and the best methods.

It is also worthy of mention in evidence of the progress of our agriculture, that agricultural implements and machinery of various kinds, of the most approved patterns and in a rapidly increasing ratio as to numbers, are being introduced in every part of our State. It is to be regretted, however, that so few of these implements are manufactured by our own mechanics. Hundreds of thousands of dollars are annually sent out of the State for the purchase of reapers, threshing machines, horse-powers, grain-drills, plows, harrows, cultivators, and every other kind of implement and machine in use by our farmers, who, as a necessary consequence, pay, in addition to cost of manufacture, the dealer's profit and the cost of transportation. This is certainly bad economy, and the Society wauld reiterate what has heretofore been said on this subject, in hearty approval of the recommendation of the Executive of the State, that measures be adopted for the better encouragement of manufactures, in general, so that foreign capital, so much needed, may be induced to invest in this important branch of our industry as a State.

Upon Agricultural Societies the past has been a very trying year, for the reason that the public mind has been in a constant fever of excitement upon subjects connected with the welfare of the country, and has consequently found much less interest than usual in the industrial enterprises which engage the efforts of associations of that class. Most of the county societies held fairs, however—some of them, with even more than usual success.

The State Agricultural Society has suffered from special causes worthy of mention by the Committe And of consideration by the Executive and Legislative Departments of State and by the people. Reference is made to the occupation of the Society's Fair Grounds by the troops of the State, to the exclusion of the Society therefrom. This has been not only an embarrassment but a serious damage. From motives of economy, the Society located the Annual Exhibition at Madison for two years.—But this made it necessary that the buildings, fences and other improvements should be of a more substantial character than had been usual, though, at the same time, it warranted a neatness of construction which very materially added to the attraction of the grounds and the comfort of the people in attendance upon the exhibitions. Still the society would have made a considerable gain by the said location for two years, could it have held the second exhibition as arranged, since, in addition to putting a large proportion of the receipts of the Fair and the Madison city subscription into the treasury, it would have added thereto the whole amount accruing from the sales of material—thus leaving the Society in a most excellent financial condition. The grounds were desired, however, by the Governor, for the use of our volunteer troops, and the Executive Committee, feeling that in this time of national peril, the interests of the Government were paramount to those of the Society, cheerfully tendered them to the Executive for military occupation, and subsequently relinquished the holding of the proposed Annual Fair, rather than subject the State to an expense of several thousand dollars necessary to the fitting up of another camp. And the consequence has been that the society has lost the net receipts of the fair, the cost of printing the premium list therefor, the Madison subscription and the advantage of selling the timber and other material while it was yet new and comparatively uninjured—advantages whose value, in the aggregate, could hardly have fallen short of five thousand dollars.

These facts will account for the embarrassed condition of the finances, as seen by the accompanying report of the treasurer, and should hardly fail to place the State Government and the patriotic people of Wisconsin in a friendly, if not generous, attitude towards the Society.

Moreover, it should not be forgotten that the holding of exhibitions—one very important means of promoting the industrial interests of the State—is not the only office of the Society. The law under which the Society has a corporate existence [see Chap. 80, Sec. 4, Revised Statues,] provides, that the amount annually appropriated in aid of the declared objects of the organization, shall "be expended by said Society in such manner as it may deem best calculated to promote and improve the condition of agriculture, horticulture, and the manufacturing, mechanical and houshold arts in this State, either for the payment of premiums at the annual cattle shows and fairs of the Society; or in the purchase and distribution of choice seeds, cuttings, plants or tubers, which have been tested and found adapted to the soil and climate of this State; or in the prosecution of scientific investigations and experiments, and the collection and diffusion of information tending to develope the natural and agricultural resources of Wisconsin."—Under authority of this act, and with the conviction that a thorough knowledge of the industrial capacity of our State would tend to the more rapid development of its resources, and at the same time immediately aid in securing to Wisconsin an honorable rank among the enterprising and progressive States of the Union, the Society has undertaken the important work of making agricultural surveys of the several counties of the State. The work will be under the immediate supervision of the Secretary, and will be carried forward as fast as the funds of the Society will warrant. The

survey of the county of Dane has already progressed to a considerable extent, and will be reported in full in the 7th volume of Transactions of the Society.

Nor are the operations of the Society, outside of the management of the annual fairs, limited to this important field of scientific investigation, as will appear by the following sections of the By-Laws, defining the duties of the Secretary, who is the only salaried officer:

"2. To open and carry on such correspondence as may be advantageous to the Society or to the common cause of agricultural improvement, not only with individual agriculturists and eminent, practical and scientific men of other industrial pursuits, but also with other societies or associations whose objects are kindred to ours, whether in this country or foreign lands, and to preserve a journal of such correspondence in the archives of the Society.

3. To collect and arrange for convenient examination, standard agricultural works and periodical publications, together with such models, machines and implements as may be donated to, or otherwise acquired by the Society.

4. To investigate as far as practicable, the nature of fertilizers, indigenous and cultivated plants, insects injurious to vegetation, &c., and to collect and preserve such specimens therof as will illustrate the natural history and agricultural resources, condition, and progress of the State.

5. To institute, and collect reports therefrom, needed experiments relative to the preparation of the various soils of the State for economical culture; the cultivation of different grains, fruits, and garden vegetables; the breeding and raising of stock, &c., &c.

6. To visit, by the advice of the Executive Committee, or as his own judgment may direct, the various portions of the State, and to give lectures on the science and practice of agriculture, wherever and whenever they may be deemed most necessary or desirable.

7. To co-operate with the Superintendent of Public Instruction and the Agent of the Normal School Board for the introduction and use, in the schools of Wisconsin, of standard works on agriculture and other industrial arts and sciences, and for the general promotion of the cause of industrial education.

8. To attend as many as possible of the industrial exhibitions of the country, particularly the County Fairs of Wisconsin. * *

9. To carefully prepare and superintend the publication of the Annual Report of the Society to the Governor of the State; embodying therein the proceedings of the State Agricultural Society, an abstract of the reports of the incorporated County Agricultural Societies of the State, and such reports, essays and addresses or other matter of information as may be calculated to enhance the value of said Report.

Finally, it shall be his duty, not only by the means above named, but also through such other instrumentalities as he may devise, and the Committee approve, to devote himself faithfully and unreservedly to the promotion of the industrial interests of the State."

This work of the Society is always going on, and during the past year has been prosecuted without interuption and with more than usual vigor, because of the omission of the Fair.

The "Annual Report" referred to in section 9 of the By-Laws, is likewise provided for in section 6 of chapter 80 of the Revised Statutes, which reads as follows:

SEC. 6. It shall be the duty of the said Executive Committee of the Wisconsin State Agricultural Society to collect, arrange and collate all the information in their power in relation to the nature, origin, and preparation of soils; the cultivation and growth of crops; the breeding and management of stock; the application and character of manures and fertilizers; the introduction of new cereal and other grains; and other agricultural subjects, and report the same, together with a statement of their own proceedings, to the Governor of the State, in the months of January in each year, to be by him laid before the Legislature.

Now, it cannot but be apparent that the preparation of such a report necessarily involves a vast amount of labor, which neither the Society nor the State can afford to spend in vain. And the inference is plain and legitimate that it is the intention of the law said report should constitute a volume of considerable dimensions, and that it should be published *by the State*, and in creditable style for preservation and use, and for distribution to other States in exchange for similar publications. In many of the States, large editions of ten to thirty thousand copies, well printed, with costly engravings and handsome binding, are annually distributed, with the most satisfactory results. But, for some reason, of which this Society is ignorant, a like liberal course has not been pursued—at least not uniformly—by the Legislature of this State. It is seldom that provision is made for the publication of this Society's Report until long after it should actually be in the hands of the people, and even then, in some instances—as was the case with the last volume distributed—the Legislature has forced the Society to pay for the work out of its own moderate and much needed appropriation. A course of this kind must necessarily hamper the action and diminish the usefulness of the Society, while, at the same time it reflects prejudically upon the credit of our young but richly endowed agricultural State. The Executive Committee are, therefore, unanimous in an expression of the earnest hope that the present Legislature will so far appreciate the important work in which the Society is engaged as to inaugurate a more just and liberal policy in this respect. If the Society is really doing a good work for the industry of the State—and the Executive Committee respectfully challenge an investigation of its plans and proceedings, and a comparison thereof with the acts of other State Societies—then it ought to enjoy the confidence and fostering care of the State, and suffer less of the unreasonable suspicion, detraction, and abuse which have been its annual portion in times past.

Wisconsin possesses vast resources of wealth. Indeed, for industrial capacity, it is surpassed by no State of equal area in the Union; and, accordingly, it should be the policy of the State Government to foster and strengthen all institutions and agencies faithfully and efficiently devoted to the promotion of its industrial interests. Especially is it important that this should be done in time like these, when the tendency is to forget that industry is the only real source of wealth—the only sure foundation of our strength and prosperity as a State and nation.

On behalf of the Executive Committee.

J. W. HOYT, *Sec'y.*

TREASURER'S REPORT.

To the Executive Committee of the Wis. State Agricultural Society:

The Treasurer of the Wisconsin State Agricultural Society would respectfully submit the following report of the receipts and expenditures for the year 1861:

1860.	RECEIPTS.		
Dec. 11,	Balance in Treasury, as per report of 1860,	$ 97	
1861.			
Feb.	Received on loan of Bank of Madison,	198 43	
March 2,	Rec'd amount of State appropriation,	3,000 00	
	Rec'd of J. V. Robbins, rents,	116 00	
	Rec'd of Gov. Randall, rent of grounds,	125 00	
	Rec'd of J. W. Hoyt, cash collected on rents,	129 00	
			$3,569 40
1861.	DISBURSEMENTS.		
	By amount paid on orders returned and cancelled, (package marked "A,")		$3,568 44
	Leaving a balance in the Treasury, Dec. 10, 1861, of		$96 00

All of which is respectfully submitted,

DAVID ATWOOD, *Treasurer.*

REPORT OF AUDITING COMMITTEE.

I hereby certify that the Auditing Committee of the Society have examined the foregoing report of the Treasurer, together with the accompanying vouchers, and that they find the same in all respects just and true.

The disbursements have been as follows:

For services of clerks and laborers at Fair of 1860,	$211 05
" livery in 1860,	41 00
" use of furniture during Fair of 1860,	17 30
" redemption of refreshment tickets used at Fair,	26 00
" premiums awarded in 1860, and previously,	211 00
" rent of Fair grounds,	80 22
" furniture bought of Church & Hawley,	7 00
" office expenses in Dec. 1859, (claim of D. J. Powers,)	14 16
Amount to cancel loan of N. H. Leffingwell,	1,035 00
" " " State Bank,	500 00
" " " Bank of Madison,	200 00
For rent of Agricultural Rooms,	100 00
" muslin used at Fair,	75 30
" pump for Fair grounds,	15 60
" expenses of Executive Committee,	159 50
" office expenses, including stationery, postage, express charges, wood, gas, etc.,	133 59
Amount paid on salary of Secretary, including $200 due in 1860,	700 00
For all other purposes,	41 72
Total,	$3,568 44

Bills and vouchers for all the above items are on file and open to inspection in the office of the Society. B. R. HINKLEY,

President and Ch'n of Auditing Com.

MADISON, Jan. 1, 1862.

County Societies are earnestly requested to furnish reports of their proceedings and lists of their officers, with P. O. address for publication in the FARMER.

Sugar Cane.—Successful Experience.

FRIEND HOYT:—Most cheerfully do we contribute to your agricultural pages some items of experience of the past year in this interesting department.

Not at all discouraged by the general failure of planters of 1860, we saved some well ripened seed, of an early variety, planted that year, called Nee-e-za-na, and May 25th to 27th planted nearly two acres, upon high prairie ridge, sloping south-west, one half cane stubble of last year, and balance millet stubble; recently plowed and put in ordinary condition as corn ground; the seed was sprouted, rolled in flour, planted by hand, rows one way, three and four feet apart, one to two feet in row. Seed came well in four to six days; fifteen days from planting commenced hoeing; hoed and wed twice during summer; run the horse hoe once and cultivator twice; more than twice the work to cultivate well the millet stubble land than the cane land; (the old cane stubble was plowed under or removed before planting,) but as it was, the labor was about the same as with an ordinary corn crop, with some extra hand labor in weeding and thinning. It grew rapidly after it once got under way; August 3d it was about four feet high, and showed some seed panicles; August 22d mostly headed and in bloom; Sept. 11th gathered some ripe seed for exhibition; Oct. 1st seed ripe, cane about ten feet high, even, canes small, hard, and very sweet.

Early in October we commenced harvesting the crop, and saving the seed; this brings us to the manufacture, of which we design to speak fully in another article, and will now give some directions how to grow it successfully. Plant upon warm alluvial or sandy land, situated high and dry if possible, if rich, all the better, southern aspect is preferable; give it a thorough preparation, as if for corn; *fresh plow* and plant about the time of corn planting, or the 10th to 20th of May, when the soil is warm and dry; mark one way, drop five or six seeds at intervals of two feet, covering lightly one half inch with fine soil.

Prepare the seed (about two lbs. to the acre) by *soaking a few hours in water*, then put into a bag, envelope with cloths snugly, keep in a warm place until it sprouts, which will require from one to three days. When the sprouts begin to show well, roll the seed in plaster or flour, for two reasons: to preserve the moisture in the seed, and to enable the planter to distribute and cover it evenly. It is well to ash or plaster the hill immediately after planting. *Prompt and early cultivation* with the *stimulus of the plaster or ashes*, will secure an *early growth*. Experience proves that nine-tenths of the chances of success and failure lie in the first few weeks of the young plant, and one acre extra well started and cared for, will yield more profit than several with ordinary care.

As to the question of profit we are fully satisfied:—

1st. That it will pay to grow as a fodder crop equally as well as corn, yielding a large amount of leaves, tops, and seed.

2d. The stalks alone are equal in value to corn, acre for acre, as food for swine, if fed during mild weather.

3d. The cost of manufacturing into syrup—equal in value to the southern syrups—need not ordinarily be more than twenty cents per gallon; and with well ripened cane, good sugar is easily made any where.

In regard to varieties it is safe to plant only the early kinds in our State, as a moderate crop of well ripened cane and seeds, will prove more valuable than a great growth of unacclimated cane with very small percentage of sacharine. The reader will perceive from the above that our Early African Imphee ripened in 105 days from planting. It gained ten days over the previous year in time, and will gain some undoubtedly in the next year; at the same time, it was the richest cane we ever have seen, though medium in size, yet stood up well, and was a fine yield. J. C. PLUMB.

Vine Hill Nurseries, Madison, Wis.

TEST OF THE VALUE OF MANURE.—Hon. Josiah Quincy, Jr., at the first Legislative Agricultural Meeting in Boston, remarking on cow manure, said the test of the value of her products, as well with manure as with milk, was *the quality of the food given her*. He added (as reported in the *N. E. Farmer*,) "You can get nothing out of her which you do not put in.—An Englishman will buy a bullock, keep him a time for his manure, and then sell him for what he gave, or less. Mr. Lawes of England, had made experiments in feeding cattle on cotton seed meal, and found that while a given quantity of voidings from the food was worth $27 86, the same quantity produced from carrots and turnips was worth only 86 cents." In his opinion, the great secret of good farming was high feeding.—*Country Gent.*

Top-Dressing.

The utility of top-dressing, especially grass lands, cannot now be questioned; but it is not certain, that all who practice it, understand in what manner and at what time, top-dressing can be applied to ensure the best results.

Saying nothing now of liquid manures, which are of little account unless applied after the frost has left the ground in spring, I doubt if my brother farmers are aware of the importance of selecting the right time when to apply top-dressing of any description.

The fall has hitherto been regarded by the majority as the best season of the year to top-dress grass lands; and, upon close, hard soils, upon flat and level surfaces, it has been practiced with excellent success. But taking New England lands, with rare exceptions, is it certain that the fall is preferable to the spring? I think not, and the reasons for this conclusion are obvious. In the autumn, more than in the spring, top-dressing is exposed to hazards of loss. If the succeeding months are wet, and the earth is washed by continuous rains, much of the fertilizing quality of what has been applied is rendered valueless. It is different in the spring.

Manures or composts applied just after the frost has begun to leave the ground, are absorbed more readily, and the temperature of the surface is rendered several degrees warmer by the covering it has received.

Grass lands that are top-dressed in the spring will be found to come forward earlier than those thus treated in the autumn, and the crop will prove npon trial, to be larger.

I am aware that most farmers can more conveniently attend to this sort of work in the fall than in the spring, and I fear that this is the principal reason which has led them to adopt the practice now so common. The heaviest crop of grass that came under my observation during the last hay season, was a piece of ground of about three acres which had been top-dressed in the last of May; and a piece of mowing, upon which was spread, in October, a generous dressing of stable-manure, did not yield nearly so well as a piece of ground ad-

joining, of the same quality, top-dressed in the same way in the last days of February.

In respect to light, sandy soils, there is not a doubt that top-dressing in April will prove more productive than if done at any other time of the year.

Many farmers may be inclined to doubt my statement in respect to the spring process, as they have usually been taught to believe the reverse; but if they will take the trouble to experiment two or three years in succession, they may yield their opinions to one who has aleady made the trial.—* * *., *in Co. Gent.*

Midwinter.

The speckled sky is dim with snow,
The light flakes falter and fall slow;
Athwart the hill-top, rapt and pale,
Silently drops a silvery veil;
The far-off mountain's misty form
Is entering now a tent of storm;
And all the valley is shut in
By flickering curtains gray and thin.

But cheerily the chickadee
Singeth to me on fence and tree;
The snow sails round him as he sings,
White as the down of angels' wings.

I watch the snow flakes as they fall
On bank and brier and broken wall;
Over the orchard, waste and brown,
All noiselessly they settle down,
Tipping the apple-boughs, and each
Light quivering twig of plum and peach.

On turf and curb and bower-roof
The snow-storm spreads its ivory woof;
It paves with pearl the garden-walk;
And lovingly round tattered stalk
And shivering stem its magic weaves
A mantle fair as lily-leaves.

The hooded beehive, small and low,
Stands like a maiden in the snow:
And the old door-slap is half hid
Under an alabaster lid.

All day it snows: the sheeted post
Gleams in the dimness like a ghost;
All day the blasted oak has stood
A muffled wizard of the wood;
Garland and airy cap adorn
The sumach and the wayside thorn,
And clustering spangles lodge and shine
In the dark tresses of the pine.

The ragged bramble, dwarfed and old,
Shrinks like a beggar in the cold;
In surplice white the cedar stands,
And blesses him with priestly hands.

Still cheerily the chickadee
Singeth to me on fence and tree:
But in my inmost ear is heard
The music of a holier bird;
And heavenly thoughts, as soft and white,
As snow flakes, on my soul alight,
Clothing with love my lonely heart,
Healing with peace each bruised part,
Till all my being seems to be
Transfigured by their purity.

[*Atlantic Monthly, for February.*

How Much Wiser are we?—C. W. Johnson, in an article on phosphate of lime, in the London *Farmer's Magazine* for June, says, "There are yet men, I am told, in Sheffield, who are old enough to remember the time when the Yorkshire farmers were *paid* for carting away the refuse bones and ivory turnings of the Sheffield knife makers."

The Mission of Agricultural Papers.

Farming is a science, and is becoming more and more such every day—till eventually it will be the chief science of the world, as it is already the most important, embracing many of the other sciences. And this science, like all others, must be taught, disseminated. This can only be done through the proper channels —schools, books, periodicals, lectures (public and private), and example. The latter is perhaps the most effectual way, providing always that the means of instruction be efficient. But this must of necessity, in our present state of farming, be confined to isolated cases. This objection holds, in a measure, with respect to lectures, and also to books and schools. The great lever of the progress of the age, is the press; and in its popularity is its success. If not abused, this is the most effectual instructor. We are glad to see the farming community so well represented. But agricultural journalism is still in its infancy; though it keeps pace with the progress of the science, which is constantly stimulating it. This impetus will sustain it, as it is founded in the interest of the farmer. Besides, the journal embraces, more or less, all the other sources of instruction. It covers the whole field; reviews and comments upon books, and gives extracts; reports lectures; becomes teacher, even to the teacher, and the most welcome visitor at the college table; most of all, it reports practical experiments and discoveries. These are the gold sands of the journal, which it regularly and immediately serves out to its customers, fresh with every issue: for there is constant progress and development. And it is all brought to our doors, and for a mere pittance. And this is not its end; it remains with us, a library of constant reference.

But agricultural journalism is not well patronized. The reason is, its value is not immediately evident, tangible. It does not come with its profit wrapped up in so many bank bills. This profit is felt in the granary, in the market, on the farm; seen, perhaps, years hence; but generally little seen, if at all, in connection with the journal. Could this evil be remedied, the agricultural press would be established as a success. And it will come.—But the journals themselves must be the principal means to bring it about, by introducing greater precision and integrity into their columns, which they may now lack, and directing themselves more pointedly, more searchingly to the interests of the farmer: in a word, making the journal more efficient; for the public mind must first be 'instructed, before it will know, and then it will be readily convinced.—There are many such now; but they are among the intelligent readers; and they are ly augmenting. And it is the journal that rapid educates them—the great lever of dependence. Deprive them of this, and they would be a rudderless ship. As well deprive them of their

daily cup or meal. And the greater the intelligence, the greater the dependence upon this source of instruction. Why is this so? Because they realize its benefit; they calculate it. And if not jingling out each week or month as the paper is unrolled, the cash finds its way eventually to the pocket, and the enlightenment to the brain, which, independently is a gain.

We need not refer to farming, as practiced thirty or forty years ago, to convince the reader of the value of agricultural science, and of the journals that represent it; nor to the superior tillage of Europe over our own. This is evident; and is becoming more and more so every day. For light is scattered broadcast, and for a mere trifle—common as the light of the sun, and almost as cheap. And yet the agricultural journals are but sparsely distributed, when we consider the extent of the farming interest—the most extensive of human employments—the vital interest of the world, without which society would cease to exist.—Why is this so? Why is the great majority of the farming community still ignorant—still damaging the earth, and disgracing agriculture? It is prejudice, based as it always is, on ignorance, and a stubborn selfishness.—Here is work for the journals—for the real disseminators of light, who do the work for the farmer. These should be encouraged. It is the spurious that are constantly in the way, reflecting a pernicious influence on laudable merit. And it is hard to get rid of the fungus growth, formed by the sham tricks of the day, in common with other spurious publications, and drawing their substance from the true journals. This is the greatest evil the agricultural press has to encounter. Were it not for this, their success would already be complete, and the farming interest advanced.—There is no remedy, however. The croakers will always follow the singing birds, and divide their food with them. However as light advances, their chance improves. The crisis of the country, whatever else its effect may be, will starve out these birds of ill omen; and leave the field fresh and clear. A better day is coming for agriculture. Its march is onward, and cannot be arrested. To arrest it is to arrest life itself in the same degree. The journal, the real instructor of the farmer, is as certain of success, as of bread. It must be limited, however, because the science is yet in its infancy. But eventually it will meet with patronage commensurate with the extensiveness of the farming interest. Its day is coming; it has already dawned. We have instances of comparative success—not purely agricultural, but mainly, and decidedly. As soon as the public become convinced of the utility, the almost absolute necessity, of an agricultural press, the day has arrived when the farmer's journal will be the peer of the newspaper.—*Valley Farmer.*

Agriculture and the Agriculturist.

Editor Farmer:—Agriculture, one of the most ancient, as well as healthful occupations, lies at the very foundation of a nations strength and prosperity. Some at the present day, consider it an occupation fit only for the ignorant and stupid; but many of the ancients considered it a high and noble calling.

The Chinese, who, it is supposed have existed as a nation for about three thousand years, hold a solemn festival every spring, at which the ruler of this great nation, the princes of blood, the nobles of court, and some of the distinguished cultivators of the soil are present to celebrate the return of seedtime. The Emperor takes the handles of a plough into his own hands, ploughs a few furrows, then plants a small portion of each of the staple grains of that country in the newly ploughed earth.

At the time the Roman nation enjoyed its greatest power and glory, Agriculture was considered the highest occupation in which man could be employed. The reason so many at the present regard farming as being beneath their notice, is because it has not kept pace with the advancing age; although there have been many valuable improvements in the mode of farming as well as in the implements used. There is room and much need of improvement in both, especially the former.

It is urged by some, that farming is no employment for the mental powers, that the exercise is all physical; but one will readily see how groundless this objection is, when he considers that the farmer must know, if he would be successful what affords the most nourishment to his grain, that he may know what soil is best adapted to the grain he wishes to grow, or if not suited to the growth of his grain what will best prepare it.

Let us look for a moment at Agriculture and those engaged in it, without prejudice. We find the farmer situated upon a piece of land, with a good house, barn and all necessary outbuildings, &c., suitable stock of sheep, cattle, horses and hogs, for without these he should not be considered worthy the title. In the

morning when he rises he looks forth upon his fields, and a feeling of delight mingled with thankfulness, fills his heart. A few minutes later we find him attending to his stock. His horses welcome him with a neigh; and the sheep press around to lick the hand that administers to their wants. In the spring, nature spreads her enchanting scenes before him. His fields are covered with grain and grass.—His fruit trees are loaded with blossoms that promise a fruitful harvest. In midsummer his situation is not less enviable, and although he may be obliged to laboe hard, the scenes around him are such that he feels less fatigue than he would at other work.

In the morning, as he goes forth to labor, gentle breezes play with his locks; the lark and a thousand feathered songsters greet him with their sweetest songs and cheer him on in his task. As the day advances, and the birds cease their morning anthems, he feels weariness coming on, when he straightens up for a moment's rest; he casts his eyes around and a scene is before him which a king might envy. There stretches to his right for a mile, over hills and vallies, a field of half ripened grain waving in the noonday sun, with here and there a dark cloud-shadow gliding over it like the wing of evening. To his left lies a field of corn, its dark green leaves wrestling the wind. As he looks at these scenes in addition to the usual emotions awakened by them, he anticipates a fruitful harvest; thus he soon forgets his weariness and turns to his task with new strength and zeal. Autumn comes, loaded with fruit for the farmer. His barns groan with their burden of golden grain; his fruit trees bend with their load of precious fruit. Thus the farmers situation is not only pleasant and desirable, but one that tends to a reflective mind, filled with a sense of the goodness and wisdom of the Author of nature.

There is another feature in farming worthy of notice, that is, its independence. The farmer knows that if his business thrives, all others thrive also. As he seats himself at the table to satisfy the claims of nature, the thought that it is loaded with the productions of his own labor brings a satisfaction which is never enjoyed by the man who is compelled to look to others for the necessaries of life.—Moreover, this independence, in addition to the comfort which it insures, has likewise a tendency to increase the farmer's self respect and to develop that self reliance which is essential to true manhood. May we not conclude, therefore, in the words of Washington, that "Agriculture is the most healthful, the most happy and the noblest occupation of man?"

*

WAYNE, Ill., Jan. 2, 1862.

[From Gov. Andrew's Message.]

Massachusett's Agriculture.

The Agricultural interests of the Commonwealth have been highly prospered during the past year. Their products are estimated as exceeding thirty-two millions of dollars. The season was propitious and the crops, with few exceptions, were abundant and profitable.

The exhibitions of the Agricultural Societies as a whole were more complete and attractive than ever before, while the interest manifested in them by the large attendance of people was never excelled. Under the encouragement of the Commonwealth, the smaller and feebler societies are gradually placing themselves upon a more permanent and useful basis, and it is believed that if the present fostering care is continued they will, within a reasonable length of time, attain a degree of strength and prosperity which will make them self-sustaining and self-reliant. Notwithstanding the poverty of her soil, in contrast with that of some of her sister States, the agricultural interest of Massachusetts is one of the most important; and the great and rapid development of her resources, through the growing intelligence of her husbandmen, as shown in recent years by the increase of farm crops, the improvement in the breeds of domestic animals, the production and culture of new varieties of fruits, all confirm the wisdom of that legislation which has encouraged the formation of societies for agricultural improvement, by the bounty of the State.

Many additions have been made to the State Cabinet during the year, and the interest manifested in it by the large and increasing number of visitors from day to day, shows clearly the practical value of the collection in developing a fuller appreciation and knowledge of the Natural History of the Commonwealth.

The State Board of Agriculture, sensible of the importance of having the elements of agriculture taught in our common schools, made arrangements with Messrs. Geo. B. Emerson and Charles L. Flint to prepare a text book or

Manual of Agriculture, comprising and presenting in an elementary way the principles and practice of this art, including the composition of soils and manures, the preparation of lands, the culture of special crops, the principles of rotation of crops, the diseases and enemies of growing plants, the choice and management of farm stock, and the general economy of the farm. This work has been executed so as to meet the approbation of the Board, and their recommendation of it as adapted for use in the schools of the Commonwealth. I trust it will serve to help increase an intelligent interest in farming, and develop the productiveness of this fundamental pursuit of industry.

An undue proportion of the soil of our Commonwealth is unused for any profitable purpose. This is in part owing to following the local traditions, instead of studying the secrets of nature, and extracting her truth.—Much land now wasted might be used for the growth of wood and timber, yielding a crop once in twenty or thirty years, without much labor in its care; and farms now of little profit might become profitable by the proper methods of adaptation, and the skill to diversify their cultivation. Fruits, vines and various branches of gardening, may be largely cultivated by those whose main pursuits are indoors and sedentary. And might not the study of nature awaken a taste for horticulture and the like, in our boys and girls at school, the results of which will be seen, not alone in the larger business of regular farming, but in a thousand humbler ways, adorning the village, the wayside and the cottage home with beauty, giving freshness to many jaded minds, besides increase of health, industry and wealth?

Loss by Selling Hay.

In some remarks before the Worcester North (Mass.) Ag. Society at their exhibition last Autumn, Mr. Brooks of Princeton touched upon this subject as follows:

It was his belief that if farmers would expend more of their surplus funds in improvements on their farms; rear and feed a larger number of cattle, sheep and swine; cultivate more root crops; expend a larger portion of their produce upon the farm, and rely for profits upon the sale of beef, mutton, pork, butter and cheese, they would by so doing find their manure heaps constantly enlarging, their crops annually increasing, instead of diminishing, as they now do, by the practice of selling the crops off the farm, and placing the proceeds at interest, to be eventually more or less of it lost by bad investments. Many farmers believe themselves growing rich by selling their hay, especially if they purchase and return to the farm as much manure as the hay sold will make, and if they do not, their farms will soon bedome worthless, or nearly so. The average market price of a ton of good hay in Worcester county, for the last ten years, will not exceed fifteen dollars; a ton of good hay will make more than two tons of solid manure, weighed when recently dropped by the cow or ox, but we will call it two tons. The liquid excretions discharged by an ordinary cow or ox, while consuming one ton of hay, with a suitable supply of water, will be admitted by all who understand the matter, to be equal in value to the solid. Thus four tons of manure is produced by a cow while consuming one ton of hay. Four tons of fresh manure is equal, by measurement, to one and one-quarter cords weighing sixty-four hundred pounds the cord, or fifty pounds the cubic foot, the value of which we will estimate at four dollars the cord, and one ton of good marketable hay we will call worth six dollars the ton, for feeding stock on the farm. If these premises are correct, the amount will stand:—

Dr.	Delivering one ton of hay sold,	$1 50
"	Cash paid for 1 and 1¼ cords of manure,	5 00
"	Carting four tons, or 1 and 1¼ cords of manure to farm,	6 00
"	Value of hay for feeding stock on the farm,	6 00
		$18 00
Cr.	One ton of hay sold, average price,	$15 00
"	Loss to balance,	3 50
		$18 50

Thus we see, by the practice of selling hay, instead of gaining, as many believe they do, we are losing at the rate of three dollars and fifty cents for every ton sold.

Killing Smut in Seed Grain, &c.—There is a simple and effective means of killing smut in seed wheat, etc., withtn the reach of every practical cultivator, who is not too idle or careless to use it with caution, namely, lye made from the ordinary wood ashes of the daily fire. But there is danger in using it strong; for if too strong it will kill the seed also, as I have proved. There is much difference too, in the ashes from different sorts of wood.

The only safe way is to make lye some weeks before sowing your seed, from precisely the quality of ashes you will use in the lye for *dipping* the seed, and then sow small quantities of seed, and set in a warm place to be sure it will grow. Even a *weak* lye will kill any of the parasitic insects which infest either trees or the grain of our farm or garden crops. To make this lye, the ashes are simpy put into the water a few hours. I mean to try it on the pea bug, also, when he again troubles me, as I conceive a dose of it will be too caustic for his digestion.—*J. W. Clarke, in Country Gentleman.*

A solution of blue vitrol has been repeatedly recommended in the Farmer, and the experience of those who have tried it, so far as we know, has proved its value.

Good Seed—Early Wheat.

"What you sow, that shall you also reap," is as true in agriculture as in morals. It was once thought, and sustained by high authority, that imperfectly ripened wheat, if it would germinate, was as good as any for seed—and even recommended as better than good, plump kernels, as more seeds were contained in a bushel. Experience proves this notion fallacious. We may as well expect a full sized Morgan horse from a Spanish jackass, as a good crop of wheat from imperfect seed. *To produce the best, we must propagate from the best.*

In England, the farmers take the sheaves and whip them gently over a stone, when the best and earliest ripened kernels will fall out, which they take for seed. A better method is to go through the field and select the earliest ripened heads for seed, which will soon produce an earlier variety than the original stock. Such seed will also produce a crop free from smut. Sowing poor, half ripened, imperfect seed, is sowing smut and disappointment. It might seem that it would be an endless task to gather enough early heads for seed, but it requires but two or three years to change the variety, and have seed enough and to spare.

A wheat known in Scotland as the Hopetown wheat, and deemed an excellent and prolific variety, owes its origin to an accidental circumstance, an observing farmer having remarked a very superior ear, from which he picked out ninety-nine kernels, and from their product come this celebrated variety.

"To show the rapidity with which such seed may multiply, we gave an instance. A farmer in Cambridgeshire, England, in 1840, gathered eighteen very fine ears, the proceeds of which filled a common wine glass. These seeds he planted the following autumn, and produced one peck. This was planted the following autumn, and produced seven bushels and one peck, and this produced one hundred and eight bushels and two pecks, which was planted in 1843, and produced one thousand eight hundred and sixty-eight bushels." This was the increase of eighteen heads of wheat in four years. Another farmer planted thirty kernels in 1839, which produced fourteen and three-fourths ounces; this was sown, and produced one bushel and one peck; this produced forty-five bushels; and this, in 1841, produced five hundred and thirty-seven bushels.

It will thus be seen that the task of gathering the earliest ripened heads, and thus producing an early variety, is not great; and farmers will be well paid for the trouble.—They will get a variety that can be sowed late enough to escape the fly, and that will still ripen early enough to escape the rust. Try it, and give us the result.—*Ohio Farmer.*

☞ We want the experience of sound practical farmers on all agricultural subjects.

STOCK REGISTER.

For the Farmer.

Stock-Growing in New Mexico.

[Letter from Judge J. G. Knapp of the U. S. Court.]

TAOS, New Mexico, Dec. 17, 1861.

This place situated in latitude 36° 30′, and at an elevation of 8,100 feet, is enclosed on the northeast and southwest sides by mountain ridges which rise in many points to 20,000 feet. On the remaining sides similar mountains just appear above the horizon at the distance of from seventy-five to one hundred miles. The mountains in the north are already whitened with snow as well as are the north sides of all. The ground here has been twice merely whitened in the morning, but it all melted during the day. And at this time there would be no difficulty in plowing. In truth there has not as yet been enough frost at any time to prevent breaking the ground, although there have been frosts every night since the first of November. The great defect of this Territory is want of rain to produce vegetation. No crop can be raised without irrigation, and as that is dependant on the mountain streams, which are fed by the snows and showers which fall upon the peaks and high ridges, the amount of arable land is very limited.

PASTURE LANDS.

The pasture lands of New Mexico, on which the immense herds of antilopes and buffaloes once fed, are mostly situated on the east side of the mountain ranges. In the valley of the Rio Grande del Norte, above this point, the grass is found only in patches, and is very short, but is exceedingly nutritious. The grass on the eastern side is much more plentiful, and taller. All is killed by the first frost, or dryed up in the months of September and October. After which time the stock live upon the dry feed, yet the stock raisers can see no difference with their cattle in the amount of nutriment which it contains; or if there be any it is in favor of the dry feed; the stock being in better plight in the opening of spring than in July.

SALT, TETEZQUETA.

Stock are reared without any salt. The extensive plains of soda which is found in every portion of the Territory, answers as a substitute for that mineral. Horses are never hurt by it, but sheep and cattle are not unfrequently killed with it, especially those which are kept in its neighborhood, only occasionally.—To allow sheep and cattle to come suddenly in contact either with the infloresed salt, or with water saturated with it, with empty stomachs, and to eat or drink as much as they please, is almost certain death to the animal within a few hours. With full stomachs there is less danger. The flocks are often driven by the shepherds to the *tetezqueta*, or salt ponds, for the purpose of allowing them to eat and drink the saline matter. In such cases the shepherd causes his flocks to feed on the best grass he can find in the neighborhood, until about two o'clock in the day, when he starts them over the salt plain as fast as they can be hurried by himself and dogs, only allowing them to catch so much as they can get in the hurry. Next day they are again drlven across in the same manner. After which, or on the third day they are allowed to eat and drink as much as they please, always on a full stomach. With these precautions it sometimes happens that they get too much at first. Those flocks which are fed in constant contact with it, never hurt themselves, although they have no other water to drink. And even the shepherds drink it with impunity. To a stranger it operates as a powerful purgative, but from which the party will recover in a few days. *Tetezqueta* is composed almost exclusively of soda, carbonate, sulpnate, muriate, and nitrate, with a trace of nitrate of potash. And generally infloreces in fine needles, so light as to be insusceptible of removal, without destroying the crystals. It efferveses strongly with acids, and is therefore used by the inhabitants in lieu of soda for raising bread. There is considerable difference in the *tetezqueta* of different locations. Some is almost pure supercarbonate, while others is mixed in various but small proportions with the sulphate, muriate, or nitrate, and in some all are found. In some places traces of lime can be discovered, and in others alum, or saltpetre, or both.

SHEEP.

The great region for rearing sheep, commences on the east about the middle of Kansas, and extends west to the mountains of California, and from the thirty-ninth to the twenty-eighth paralel, thus placing its center about two degrees south of this place. Still the northern portion is best adapted to the fine wools. There are now in New Mexico from 15,000,000 to 20,000,000 of sheep, mostly of the coarse wooled variety brought originally from Mexico. The wool is very well fitted for the manufacture of carpets and blankets, and ought to be in great demand in the States at this time. It is the same as the Navajo Squaw uses for making her famous blankets, which are impervious to water and command a price of $15 each. There could be at least 10,000,000 lbs. of wool purchased in this Territory, taken in the fleeces at the shearing places for six cents a pound; while assorting, packing, pressing and sacking, could be done for a cent and a half more, and transportation to the Missouri river could be got for from four and a half to five cents. In short, New Mexican wool can be delivered in Atchinson, Kansas, at twelve cents a pound. There is no market here, and probably 10,000,000 of sheep are never sheared at all. The weathers are eaten for food, and the ewes are kept to rear lambs. The owners always calculate on rearing as many lambs as they have ewes of one year old; or doubling the flock every second year. The quality of the wool would be entirely changed by keeping only full blooded bucks of the fine wools, in the course of a few years, if the coarse wools were killed off for mutton. I notice one peculiarity in the mutton of this country. The tallow of the sheep is but little harder than the fat of a corn-fed hog in Wisconsin. On which account it is used for all the purposes to which lard is usually applied. The same is true of the suet of the beeves. This must be owing to the character of the grass. Sheep and cattle are always

under the charge of a shepherd and his dogs, and the former are moved to different grounds almost every day; being sometimes as much as 150 miles from their owner's house. Cattle are kept nearer at home, and generally *corralled* near the house every night.

Cattle are reared almost exclusively for market, though some oxen are broken to work. The calves consume nearly all the milk. No butter is manufactured, although it brings fifty cents a pound in the markets of the territory. Cheese is never manufactured, though the Mexicans make a curd which is kept until it sours, and is then eaten without salt. Cattle are uncommonly healthy, and heifers usually have calves at two years of age. It is safe to calculate upon one calf for every cow of two years and upwards, each year, so that a herd of cattle will double itself in two years and a half. There are many excellent bulls in the territory, but the native cattle are very fine fleshed, though too heavy in the fore quarters.

But I have already written too long for one letter, and must close. J. G. KNAPP.

Stock-Raising—Horses.

Spike Harrow in *Germantown Telegraph*, says:

This, if not the *most* important, is *one* of the most important branches of stock raising.

Every body likes to drive good horses, yet how few take much pains to raise them.

It costs little or no more to raise a good horse than a poor one. Any one who owns a good sound mare may raise good colts; they may not be Flora Temples, but, if a little care is exercised, will be good and may be excellent. Henry William Herbert truly said when speaking of the horses of this country, that, "If a horse will carry his rider without kicking him on his head, or draw him in his wagon or buggy without kicking it to shivers; if he will go off at a walk, increase his speed to the top of his gait, and stop again when pulled upon without running away; if he will hold back going down hill; and more particularly if he will stand at a door without tying—he is held to be fully broken, and is willingly received, credited, and paid for as such."

I will suppose that the farmer owns a mare and wishes to raise colts. Too many will procure the services of the nearest or lowest priced (not cheapest) horse. This is a grand mistake with any kind of stock, and none more so than with the horse. The stallion should be chosen with regard to the mare, and kind of service desired of the offspring. If the colt is wanted for a common farm horse, for working and driving, then choose the horse accordingly; if the mare be narrow chested, then choose a wide chested horse; if she is short legged, choose a long legged horse.

After selecting your horse, little can be done until the mare is nearly ready to foal. This is a critical period both for the mare and foal. *Moderate* work will not injure even within twelve hours of foaling time; but unless it is absolutely necessary, it should be avoided for a day or two. As the time of foaling approaches, if the mare is worked, she should have more generous feed, for she has not only herself to support, but also her colt.

"In warm weather a cool, airy place is best; but in cold weather, warm shelter but not *close*, should be provided. A little extra care and feed at this stage will be amply repaid.—After this, nature should be allowed to perform her task. As soon as the colt can stand, let it be handled and petted and even haltered. It is much easier to handle now than when one or two years old. It is better to allow it to follow the mare when she is at slow work; the exercise will be of use to it, and it can obtain its food whenever it is hungry.

Let the colt be accustomed to have its feet raised and struck with a hammer or stone; let it be led about with a halter or by the forelock. At this age punishment should never be resorted to, but rewards should be given often.

This petting and handling could be continued until the colt is two or two and half years old, then he may have the bits and surcingle. At three years old the gears may be put on him, a piece at a time, taking care never to frighten him with them. Before hitching him to the wagon, let him become accustomed to the gears and straps hanging about him. Let Let him smell everything about the wagon that he is afraid of. Place him alongside of a quiet horse, and if his former education has been properly conducted, there will be little or no trouble. Let him be petted and rewarded with a handful of corn or oats occasionally.

Patience and good temper are now very important items, and if the breaker lacks these two qualities, the colt stands a good chance of being spoiled. Learn him to walk fast, for whatever habit he now acquires will mostly be permanent, or very hard to eradicate.

Let him first draw the empty wagon down a slight grade; then up it; then with a load gradually increased; but care should be taken not to continue the first lesson too long, or he will become tired and worried.

One thing is certain, that care and patience at this stage, will amply repay itself in the future.

Do not put him to hard work while young; a year's exemption from hard labor will add four or five to a horse's life.

For the Wis. Farmer.

"Abuses of the Horse."—A Poem of Fifty Years Ago.

J. W. HOYT, Esq., *Dear Sir*:—In reviewing the January No. of the WIS. FARMER, my eye rested on the excellent piece entitled "Abuses of Horses" with the perfect drawing of the animal. The picture is so truthfully drawn, and the setiment so humanely expressed, that I could wish it engraved upon the heart of every man who owns a horse. It brought vividly to my mind the following stanzas, which a much loved lady friend taught me fifty-two years ago when I was but a lad of six years old; I have never forgotten them, and have many times in my life seen the "big tear" glisten in the hearer's eye while listening to the song. Although it may be called "old," yet it is none the less truthful, and the crime of abusing old horses (if not old people,) is just as prevalent now as then. It is a crying sin, and the voice of every humane person should be raised against it. J. F. WILLIAMS.

MIDDLETON, Dane Co., Wis.

POOR OLD HORSE, LET HIM DIE.

My clothing was once of the lincey wool, so fine;
My mane hanging down, and my coat it did shine;
But now I'm growing old; my nature doth decay;
My master he doth frown, and one day I heard him say,
"Poor old horse, let him die."

My keeping was once on the best of corn and hay
That grows in the fields or in the meadows gay,
But now I have no such keeping allowed me at all;
I'm forced to nip the short grass that grows around the wall.
"Poor old horse, let him die."

My lodging was once in the stable tight and warm,
To keep my poor bones and my flesh from all harm;
But now I'm turned out in the streets for to roam,
To endure the winter's cold through hail, rain and snow.
"Poor old horse, let him die."

"He's old and he's lazy, he's clumsy, dull and slow;
He eats up all my hay and he tramples all my straw;
He's neither fit to ride nor in the cart to draw;
So whip him, kill him, skin him, to the huntsman let him go.
Poor old horse, let him die."

My skin to the huntsman I freely now do give;
My flesh to the dogs, for they must also live;
Likewise these active limbs of mine that have run so many a mile
O'er hedges, ditches, fields, through gates, and through the meadows toil.
"Poor old horse, let him die."

Mankind are ungrateful for services, when past,
Exposing my poor frame to the cold winter's blast.
I used to carry loads, to draw the cart and sled,
But now my strength is spent, must be knocked on the head.
"Poor old horse, let him die."

When nature has done her best and her worst,
She can do no more than return to the dust;
So do not take it wrong nor think it a disgrace
If I compare my feelings to those o' the human race.
"Poor old horse, let him die."

Rules for Selection of Male Animals for Breeding.

The first things to be considered in the selection of a male animal are the indications by which it may be possible to form a judgment as to his constitution. In all animals a wide chest indicates strength of constitution, and there can be no doubt that this is the point of shape to which it is most material for the breeder to look in the selection either of a bull or a ram. In order to ascertain that the chest of these animals is wide, it is not sufficient to observe that they have wide bosoms; but the width which is perceived by looking at them in front should be continued along the brisket, which ought to show great fullness in the part which is just under the elbows; it is also necessary that they should be what is called thick through the heart.

Another indication of what a good constitution is, that a male animal should have a masculine appeaeance; with this view a certain degree of coarseness is by no means objectionable, but this coarseness should not be such as would be likely to show itself in a castrated animal, because it thus might happen that the oxen or weathers produced from such a sire would be coarse also, which in them would be a fault.

Another point to be attended to, not merely as an indication of a good constitution, but as a merit in itself is, that an animal in itself should exhibit great muscular power, or rather that his muscles should be large. This is a usual accompaniment of strength of constitution; but it also shows that there be a good proportionate mixture of lean and fat in the meat produced from the animal, the muscles being that part which in meat is lean.

A thick neck is, in both bulls and rams, a proof of the muscles being large, and there can hardly be a greater fault in the shape of an animal of either sort, than his having a thin neck. We are inclined to say, that in the new Leicester breed of sheep a ram's neck cannot be too thick. Other indications of muscle are more difficult to observe in sheep than in cattle. In a bull there ought to be full muscle on each side of the back bone, just behind the top of the shoulder blades; he ought also to have the muscles on the outside of the thigh full, and extending down nearly to the hoof. It will seldom happen that a bull having these indications will be found deficient in muscle.

As we are writing for the use of farmers, it is quite unnecessary for us to attempt a description of what is considered a well shaped bull or ram; it is obviously impossible to express in words what is meant by good handling.—It is sufficient to say, therefore, that no small animal is fit to be used at all as a sire whose handling is not good, and that the more perfect his shape is the better.

Hydrophobia.

There are many specifics for the cure of hydrophobia, but we have yet to meet a well authenticated case in which any nostrum has proved efficacious in this horrid disease. Here is one, however, given by an eminent French Physician, and reported by Galignani:

"Dr. Sodet, late Chief Surgeon of the Antiquaille, at Lyons, having remarked that a solution of perchloride of iron, applied as a tonic, was extremely useful in the treatment of certain disorders, was induced to try it also in the cowpox, and found, as he suspected, that the perchloride destroyed that virus completely. Encouraged by these results he determined to try its effect on the virus of hydrophobia and with this view a series of experiments was made at the Veterinary School at Lyons, from which it appears that the solution of perchloride of iron destroys the virus of hydrophobia with certainty, if applied within two hours of the infliction of the bite. It is highly probable that the effect would be the same if the remedy were applied four, six, or even eight hours later, but this requires confirmation by further experiment."

And here is another:

A Saxon forester, named Gastell, now of the venerable age of eighty-two, unwilling to take to the grave with him a secret of so much importance, has made public in the Leipsic Journal, the means which he has used for fifty years, and wherewith he affirms he has rescued many human beings and cattle from the fearful death of hydrophobia. Take immediately warm vinegar or tepid water, wash the wound clean therewith, and then dry it; then pour upon the wound a few drops of hydrochloric acid. Mineral acids destroy the poison of the salvi.

Breeding from Young Animals.—We have often been surprised at the early age to which animals of almost every species are put to breeding by our American farmers. Indeed nothing is more common than to find ewes and sows under one, heifers under two, and mares under three years bearing young—a practice, which, however advantageous it may seem to be at the time, is nevertheless directly opposed to the dictates of physiological science, common sense and the experience of every careful observer. Something may possibly be gained in numbers, but much more is lost in *quality*.

THE HORTICULTURIST.

A. G. HANFORD, : : CORRESPONDING EDITOR.

"Low Heads."

Friend Hoyt:—Should your space allow the following brief thoughts as they may be hurriedly penned, you may use them in some corner of the March number of your deservly popular and interesting monthly. The article is not designed to open a controversy with any of your able and gifted correspondents, but to present a few thoughts relating to Horticulture.

It is expected that farmers and amateurs will renew their grounds with fruit trees of such varieties as are recommended by your paper, sanctioned by its experienced contributors. This being a fact and bearing directly upon a class of reading men and women throughout this and the adjoining States, it seems to me essential that just and true premises should be laid down in meeting the increasing hope and confidence of the community in Wisconsin as to ultimate success in fruit raising. The article headed "Low heads the best winter protection for Trees" particularly attracted my attention. Admitting the full import and inference contained in that article, and Wisconsin possesses naturally all the advantages for successful fruit growing. Is that really so? or are there certain conditions of climate, soil, aspect, with the extremes of cold and heat peculiar to the West, which really are a barrier to the unlimited cultivation of fruit?

"Low heads" are what are recommended for fruit trees as well in Egypt, New York and New England as in Wisconsin.

The fact of a winter protection in low headed trees is a secondary consideration which should be allowed its full force so far as fruit trees are affected. Allow me to say, my imagination is unimpaired, I think; still I am unable to conceive of very much *shade* being produced by bare limbs and twiggs of a fruit tree in winter. When I say to a man coming to my nursery for his 100 apple trees, that the low heads which he says, will be so much

trouble to him in plowing around, that they are the best winter protection it is quite likely that the annual mulching of short manure around the tree will be neglected and that when one of those *snowless* winters again visits Wisconsin, his trees will suffer more or less according *to the varieties*, regardless of the tops being high or low.

I am relying upon an annual mulching, an annual washing of the trunks with strong soap, suds for winter protection from injury by cold and summer protection from blight and *bark lice*.

So far, I am successful with a score or more of good varieties, and have failed with three times as many "low heads" of varieties unsuited to the peculiarities of the West.

There is another item making a small show on paper, but really having more to do I believe with tree-growing than any other in their cultivation, and that is *pruning*. No one thing is of greater injury to fruit trees than severe pruning in *spring* by raising the tops or lowering them. It would seem almost incredible that any one of your readers would need to be informed of the *cause* of the diseased, mouldy, rotten-hearted appearance of apple trees that have been trimmed and had their heads cut off to save their lives, seen of late years so commonly in Wisconsin.

The pruning my trees submit to willingly is in mid summer at the close of the first flow of sap. The wounds then readily heal the check a tree then receives, be it one of the rapidly growing kind, is sufficient for fruiting and ripening for winter.

The having a desire for truth on these subjects that will guide us securely in enriching adorning and rendering attractive our beautiful State induces a lively interest in all that pertains to my calling and the public good.

Yours truly, H. A. C.

WHITEWATER, Jan. 11th, 1862.

☞ There is nothing like doing things at the right time and in the right manner. Horticulture, especially, can prosper under no other conditions.

Restoring Plants which have been affected by Frost.

BY DANIEL BARKER, HARTFORD, CONN.

During the present season a few remarks on the nature of restoring green-house and other tender plants which may be affected by frost, may not be uninteresting to some of your readers.

Every practical gardener is aware that the application of cold water upon frozen plants has a tendency to restore them; but from observation I am under the impression that, through ignorance of the nature of applying the water, it is seldom performed with that degree of success of which it is capable. Heat exists in two states, viz., latent and perceptible; when any two substances of different temperatures come in contact with each other, the temperature of the one is raised and that of the other is lowered, until the two substances become equal; and if they are of equal density the temperature will be a mean one; that is, provided that neither of those substances undergo a change from solid to fluid, or from fluid to gaseous. In this case, a great quantity of perceptible heat will be consumed and converted into latent heat; and if the change is from gaseous to fluid, or from fluid to solid, perceptible heat will be produced from the giving off of the latent; thus, if equal weights of ice at 32°, and water at 172°, be mixed together, the whole of the ice will be melted, but the temperature of the mixture will be 32°, so that 140 degrees are lost, or converted into latent heat. If a tender plant that will not bear the frost, a Heliotrope or Pelargonium, for instance, be exposed to an atmosphere of 32°, it will not be injured, but if the temperature sink below that point, say 28°, under ordinary circumstances, when there is the least circulation, the juices of the plant will become frozen, and it will be injured by the application of perceptible heat in its rising from 28° to 32°; but if the temperature, when at 28°, is raised by the freezing, when the act of freezing, by giving off latent heat, raises the temperature to the freezing point, the plant is injured.

It follows, therefore, that the application of water should commence before there is any alteration in the temperature of the surrounding atmosphere; that is, in the morning before the sun's rays shine upon the house containing the frozen plants, or before a fire is put on, and continue until the temperature is raised to the freezing point; but if the temperature of a green-house should be sunk to 28°, and a slight syringing of water applied only sufficient to raise the temperature by the congelation of its particles to 30°, a great injury will be sustained, if left to rise afterwards by perceptible heat to 32°, as the agitation which will have taken place among the plants will have more effectually frozen their juices.

The water which is used should be but little,

if any, above the freezing point, or as cold as can be procured, so that the temperature of the plant should rise from 28° to 32°, not by the application of a warmer substance so much as the converting of latent into perceptible heat. It is also of very great consequence that the leaves or no part of the plant should be moved when in a frozen state, as the cellular tissue of which they are in a measure composed, being of a very delicate texture, each cellule being filled with watery juice, which becomes frozen, the least bending of that part of the plant would rupture the membranes, which are only (and in many cases not quite) elastic enough to allow of the expansion of the water by freezing; it is, therefore, obvious that, instead of the water being laid on by a heavy hose, it should be done by a very fine syringe like a shower of dew.

I have put the above idea in as condensed a shape as possible; I hope not too much so to be understood.—*Horticulturist.*

The Hardiness of Trees not determined by the Locality where they were Grown.

Error is hurtful. But recently the delusion obtained that no good trees or fruit could be procured in Western nurseries! Another quite as wide spread is, that trees grown North of a given point are necessarily and permanently more hardy than those grown South of it. If this be so it must be in two, or one of two respects—the varieties grown must be hardier or the growth of substance of the trees themselves must be tougher and more enduring. The former is wholly accidental, and hence scarcely worth noticing because nobody pretends but that the hardy Northern sorts, if included in a Southern collection will grow as well as at the North. The only point would be whether they were to be found in any given collection.

Is then the growth and substance of a Northern tree hardier and more enduring? It will be urged that it is so because 1st, the growth is slower. 2d, that as nature fits the growth and tissues of every tree during the growing season for the coming winter, and as a Northern winter is more severe, therefore the growth would be hardier exactly in the same ratio.—To the fruit argument we reply that the Southern growth is not always faster except as the season is longer; or if it be really more vigorous it is also more mature, in fact really sounder; oftentimes because the trees while young are not killed back or made black-hearted by the severity of the cold. No one conversant with the facts on this point will deny this. Hence if it be an object to plant perfectly sound trees they are more certain to be found South than North. Having superior, or say equal soundness, would they be likely to maintain it? If of equally hardy sorts and shape, they would, and by the very law stated in the second argument by us conceded. Transplanted in the spring, by the next fall they would be adapted to their new home and become to all intents Northern—as we have repeatedly verified in practice. The second argument correctly applied can only disprove the propriety of making great and trying changes, as of soil, climate and expense by fall planting which we by no means advise.

Were our own experience admissible we would say that contrary to expectation we find soil, climate, hardiness and growth here, latitude 40°, 30′ after eight years experience almost identical with that of 42° 40′ in Wisconsin where we grew trees 13 years—so that if there were radical differences against Southern trees for the North, it could not be established between these parallels.

There is really much more difference between Eastern and Western grown trees. For instance, the former grown on a coarser soil, in a moister air and more sheltered localities have more perpendicular roots, more slender, upright growth with darker bark, more inclination to become mossy and firmer, grittier wood. Nevertheless as we have seen above it matters not where a tree is grown *so it is right.* Let us not be understood however as undervaluing in the slightest degree, local establishments and well directed efforts in any quarter. On the contrary with the present popular misapprehensions so lamentably current on the one hand and the innumerable and most outrageous deceits and impositions still practiced on the other, there should be the highest confidence and the most substantial encouragement bestowed on all really worthy, permanent experiments at nurserying, especially under diffi-

culties as in severe climates. Till the whole subject is better understood, such must in their very nature form the best popular safeguards. Alas that such should be so few and widely scattered! The trial of faith and patience and endurance has been in a great majority of cases too severe, and so the great evils remain as yet in a very great measure uncorrected.—We have always argued, (as we know must be right,) that it is idle to attempt to grow orchards where nurseries cannot be successfully reared.

And now having striven to point out the wrong path, let us briefly sketch the right one. 1st, For any orchard or nursery planting, for any change of locality with trees or plants especially to more trying climates, let all stress be laid on getting only of the very hardiest varieties and the most perfect specimens—sound, fresh, well-rooted, low-headed, free from noxious vermin—to be planted out in the spring.

2d, Other things being equal, get your trees and plants as near home as possible.

F. K. PHOENIX.

BLOOMINGTON, Ill., Feb. '62.

Best Time for Pruning.

[At the Annual Meeting of the Fruit Grower's Society of Western New York, the following discussion was held in relation to the important work of pruning.]

V.—What is the best form of an Apple tree, and which is the time for pruning?

Mr. Huntington said that in his early days he grafted a great many thousand trees, and had to take off many large limbs. In many orchards large limbs had been taken off by the axe previously, and he always noticed that limbs removed in the winter or early in the spring healed badly, often causing rot; while those taken off when the leaves were out healed rapidly, forming a lip of bark around the wound, and apparently without injury to the tree.

Mr. Elwanger had found the latter part of winter the best time to prune. The wound then becomes calloused, and there is no bleeding; but later in the season, when the buds begin to swell, if limbs are removed, bleeding often results and the wood becomes injured and often rots. If trees are pruned when in leaf, growth is arrested for the season.

Mr. Fish agreed with the previous speaker, and recommended pruning in the winter.

Mr. Sharp, the year before last, trimmed a pear orchard early, and got a good growth.—Last year a part was trimmed early and a part late, and that pruned late made but little growth during the summer.

H. N. Langworthy had found that pruning pear trees when growing, always checks and often stops growth altogether. If large limbs are taken off old trees about the first of April, bleeding ensues and the wood decays; but if done in April, the wood seasons before the sap moves, and remains sound.

Mr. Hooker agreed with Mr. Langworthy and Mr. Ellwanger, and thought the best time for removing trees was the present, or about the middle of winter.

What! "Sixty Bushels of Blackberries?"

So says a correspondent (A. G. Hanford) was raised in "Michigan" the past season and brought "in Chicago *five dollars* per bushel. Three Hundred Dollars per acre!" A-stonishing(?) And argues that "with a little care, all might add this delicious fruit to their gardens." Why? Because Col. Crocker succeeds admirably with them in Milwaukee. Now, Mr. Editor, we are somewhat skeptical in some branches of fruit-growing, and it often grieves us to see such a communication as the one referred to from our mutual friend, published on page 57, Feb. No. It has a wrong impression—does more harm than good. The import of it is that Mr. Merritt in Michigan grew a fine crop; Col. C. in Milwaukee, only across the lake, did also; and any one by laying down the canes north of Egypt can be like successful. Would to the credit of the State, *climate* and *soil*, they might,—but such is not the case—in my humble opinion. No sir, it is no more designed as a fruit for the million (compared to currants, gooseberries and strawberries upon the western prairies) than Mr. Chamberlain's "moss baskets" of fruit are for every novice of an amateur. Our soil and climate are not the thing. We have watched its progress from its first introduction at the west; voted it up and voted it down again, and down it seems to us it is destined to be to the majority of the State. In isolated localities where it may or does succeed, mark it as the exception and not the rule. A strip of land along the lake usually but a few miles wide, is found quite desirable for fruits of every class. In the village of Waukegan last summer we saw

the Lawton, as Mr. H. terms it, "immensely full," equaling anything seen in Western N. Y. about the same time. We also saw plants in Milwaukee which promised all that was desirable. A few miles inland at Waukegan, not more than eight or ten, the Lawton is voted a "humbug," and plants dug up as cumberers of the ground. A friable clay soil, well drained, seems to suit their nature.

An immense amount of money has been expended for the Lawton in Wisconsin, and we would now dislike to see such inducements held out as to lead people to think that by simply covering the plants, such a "fortune" can so soon be realized. We have advised hundreds to this effect during the past two years. The day has come that Nurserymen and Fruit-Growers are looked to as a kind of "Fruit God," and it behooves them to mark well their doings, as well as to have an eye to the justice of the hereafter, and not always cater to "the popular taste" in supplying high headed trees, when "we believe, fruit trees of all kinds are greatly to be preferred with them quite low." O. S. WILLEY.

Hyacinths.

Of hardy bulbs the Hyacinth stands deservedly in the front rank. While the tulip is more showy, the Hyacinth adds to great beauty the quality of delicious fragrance, in which the Tulip is wanting. There are three methods quite commonly adopted in the cultivation of the Hyacinth; in glasses, pots, or the open border. For the open border, the manner of cultivation is the same for Tulips. In a thoroughly prepared bed, open and airy, but sheltered from cold winds, a fine assortment of Hyacinths will give much satisfaction. The following arrangement of colors we find in the American Agriculturist for October, credited to a British source.

Dark Red.	White.	Light Red.	Dark Blue.	Light Red.	White.
Light Red.	Dark Red.	White.	Light Red.	White.	Dark Red.
Yellow.	Light Blue.	Dark Red.	White.	Dark Red.	Light Blue.
Dark Blue.	Yellow.	Light Blue.	Dark Red.	Light Blue.	Yellow.
Light Red.	Dark Blue.	Yellow.	Light Blue.	Yellow.	Dark Blue.
White.	Light Red.	Dark Blue.	Yellow.	Dark Blue.	Light Blue.

When the flower-stock has attained a height of a few inches, it must be tied to a stick, and care must be taken to tie every two or three inches of growth to this stick, or a high wind will break the plant or bend it to the earth and destroy its beauty. An awning of thin muslin stretched over the bed in bright sunshine, will be found of much benefit in prolonging the period of bloom.

The culture of Hyacinths in pots in the green-house or parlor is easy and satisfactory, as with proper treatment the bloom will be finer than in out-door cultivation from the ease with which the flowers can be protected from storms and other causes tending to injure them. The present is the proper time for planting in pots for winter bloom. The size of the pots used should be about five inches in diameter for single bulbs, and six or seven inches for two or three bulbs. The soil may consist of equal parts of good loam, leaf-mould and sharp sand. The pots should have an abundance of drainage, and the bulbs planted so that the tops may be about half an inch below the rim. After planting they should be thoroughly watered and set away in a cool, dark place until leaf growth has commenced. The object of this is to facilitate the formation of roots before the commencement of growth above ground. If kept in a light and warm place at first, the leaves would immediately commence their growth, deriving their support from the bulb instead of the ground, thus weakening it very much, and from which it would not recover so as to flower another year. When the leaves have made a growth of an inch or two they may be brought into the green-house or room, kept near the light, and if early flowering is not desired, in a cool place with abundance of ventillation. If they are desired to bloom early, they must be kept closer and warmer. Bulbs that have been planted in pots once should not be used again for that purpose, but may be planted in the border the next season, where they will do well, though not as well as fresh bulbs, as they are somewhat weakened by forcing.

In cultivating Hyacinths in glasses, dark colored glasses should be selected, as the roots of all plants dislike and avoid the light. Fill the glasses with soft water to within a quarter of an inch of the bulb, but not touching it.—They must now be set in some dark, cool place until the roots have travelled half the distance to the bottom of the glass, when they should be removed to a light and airy place. The water should be changed every fortnight, using for this purpose water which had stood in the apartment at least twelve hours, to ensure that it shall be of the same temperature as that thrown out of the glasses. The roots sometimes become foul; when this is the case the bulb with its roots must be drawn out of the glass, and washed with great care in a basin of clear water. When the roots are clean they must be replaced with a great deal of

pains to avoid breaking them. When the flower stems begin to appear the glasses must be frequently turned to keep the stems straight, as they always turn to the light. The vigor of these bulbs is very much weaked when grown in glasses, so that they may be considered as useless afterwards. G. B. H.

The Doolittle or Improved Black Raspberry.

A variety of the common black cap selected and improved by cultivation. It is perfectly hardy, thrives under garden culture and, in any good corn land; is very productive commences to ripen just after strawberries are gone; and continues in use for two weeks or more.

Though not of the highest flavor it is a very good dessert berry, excellent for cooking and best of all for drying. From its juice a very agreeable wine is made.

Like the Wilson's Albany among strawberries and the Concord among grapes, this is eminently the *farmer's berry*, bearing neglect and thriving with the simplest culture.

As a market berry we know of none which affords so sure returns for the required outlay, the fruit is easily gathered, bears carriage well, and is of ready sale in our cities and villages.

For field culture, manured, if the soil is not already rich, and ploughed deep, *depth and richness* being the sine quanon, now in raspberry culture. Set the plants 3½ feet apart in rows 7 feet apart. Young plants produced from the tips are best, two or three in a hill. The roots should be carefully spread out and covered half an inch deep, being careful not to injure the young sprouts.

The first season a row of corn or other hoed crop may be grown between the rows, after which the whole ground will be needed by the canes. Keep the ground loose and free of weeds by the use of cultivator and hoe. Early in summer mulch heavily about the hills, sufficient to keep down the weeds, with corn stalks or strong manure. When the canes have attained the higt of 3½ feet, nip the ends, which will cause the growth of strong side roots. In early spring, shorten these to three or four eyes each. After the bearing season is over cut out the old canes. Three to four thousand quarts may be regarded as a fair average yield per acre. The improved black raspberry is now becoming quite abundant, and plants may be obtained of most nurserymen and at a very moderate price. A. G. HANFORD.

COLUMBUS, Ohio.

THE BEE KEEPER.

Care of Bees in March.

So long as the cold winter weather lasts, bees should be disturbed as little as possible. They must not be allowed to starve, however, while waiting for the honey-gathering season to come. It may be well, therefore, to *heft* the hive, as the Hoosiers would say, in order to determine whether it be empty of honey; in which event, a sufficient quantity of sugar candy should be put in their way. It will also be well when the first warm spell comes—warm enough to tempt the bees out into the sunshine—to clean off the bottom board and put the hive generally in a cleanly condition. The bees will be thankful for it and will thrive correspondingly well.

For the reason that breeding usually commences early in the spring, it is well to supply the bees with a quantity of dry, rye flour, to serve them instead of pollen. It may be put in shallow troughs about the hive. When a pleasant day comes they will be very likely to find where it is and carry load after load into their workshops.

Upward ventilation should be shut off as soon as the severe weather of winter is fairly over.

Axioms for Bee-Keepers.

Langstroth, in his work one "The Hive and Honey-Bee," lays down the following axioms, which may well be treasured up by every keeper of bees:

1st. Bees gorged with honey never volunteer an attack.

2d. Bees may always be made peaceable by inducing them to accept of liquid sweets.

3d. Bees, when frightened by smoke, or by drumming, fill themselves with honey and lose all disposition to sting, unless they are hurt.

4th. Bees dislike any *quick* movements about their hives, especially any motion which *jars* their combs.

5th. Bees dislike the offensive order of sweaty animals, and will not endure impure air from human lungs.

6th. The beekeeper will ordinarily derive all his profits from stocks strong and healthy in early spring.

7th. In districts where forage is abundant only for a short period, the largest yield of honey will be secured by a *very* moderate increase of stocks.

8th. A moderate increase of colonies in any one season, will, in the long run, prove to be the easiest, safest, and cheapest mode of managing bees.

9th. Queenless colonies, unless supplied with a queen, will inevitably dwindle away, or be destroyed by the bee-moth or robber-bees.

10th. The formation of new colonies should ordinarily be confined to the season when bees are *accumulating* honey; and if this, or any other operation must be performed when forage is scarce, the greatest precaution should be used to prevent robbing.

The essence of all profitable bee-keeping is contained in Oettel's Golden Rule: KEEP YOUR STOCKS STRONG. If you cannot succeed in doing this, the more money you invest in bees, the heavier will be your losses; while if your stocks are strong, you will show that you are a bee-master, as well as a bee-keeper, and may safely calculate on receiving generous returns from your industrious subjects."

MECHANICAL & COMMERCIAL.

Dr. Hayes' Late Voyage.

Since Dr. Hayes arrived at home he has been invited by the American Geographical and Statistical Society, New York, by the Academy of Natural Sciences, the American Philosophical Society and the Board of Trade, of Philadelphia, to give before them a summary of the results of his expedition. These results have been stated as follows:

1. A detailed survey of the west coast of north Baffin's Bay, Smith's Straits and Kennedy Channel, and the extension of the survey to the north of any previous exploration. This survey embraces about 1,800 miles of shore line.

2. The discovery of a new channel or sound, opening westward from Smith's Strait, parallel with Jones and Lancaster Sounds.

3. A detailed survey of the coasts of Whale Sound and the coasts to the north and south of it. This survey embraces about 600 miles of shore line.

4. Surveys of glaciers, by which their rate of movement is estimated.

5. Complete set of pendulum experiments.

6. Sets of magnetic experiments at Port Foulke, Cape Isabella, in Whale Sound at Upernavik and Godhavn.

7. Topographic and hydrographic survey, including tidal observations.

8. Large collections of specimens of natural history and geological and mineralogical collections.

9. A continuous set of meteorological observations.

10. An extensive collection of Photographic views.

11. The accomplishment of a more northern latitude than ever before attained upon land.

12. Fresh confirmation of theories respecting the open Polar Sea.

The Pacific Telegraph.

On Thanksgiving day, the 28th ult., says the Rochester *Union*, a large party of the workmen engaged in constructing the Pacific telegraph from the western borders to Salt Lake City, under the direction of Mr. Creighton, arrived at Omaha on their return. The line had been constructed previous to July, 1861, as far west as Julesburgh, which is on the Platt Rives, 300 miles east of Denver. From that point to Fort Bridger, about 700 miles, the line was constructed by the party of which Mr. Starr was one. Mr. Creighton had from 75 to 80 men employed, and they were divided in three trains. The men of one train dug the holes, those of another cut down the poles and set them, and the third put up the wire. In the three trains there were about 75 wagons and 700 cattle, including a few milch cows, to furnish milk for the men. The wagons contained from 35 to 45 hundred pounds each, consisting of wire, insulators, tools, camp equipage and provisions. The trains were said to be the best that ever started over the plains—the cattle being excellent, the wagons good, and all that pertained to the comfort of the men was in keeping with the rest. Good tents were provided, also cooking stoves, and all the necessary utensils for providing meals, and—what was quite in keeping with these—the best food that could be conveyed over the plains and mountains.

The first pole was set on the 4th of July, at Julesburg, and the last on this section at Fort Bridger, about one hundred miles this side of Salt Lake City, on the 15th of October. The diggers' train went ahead and got along at the rate of about twelve miles per day, digging about twenty-four holes for each mile. The train which put up the poles only made about ten miles per day, and was one hundred and fifty miles behind the diggers when the latter reached the end of the route. On the plains the digging was easy, and the work went rapidly on; in the mountains it was slow, owing to the rocky soil.

The poles were selected, cut, stripped of bark by the men, and were then drawn out by the cattle and distributed along the line. In some localities excellent timber was found in great abundance, hard pine being most plenty, though some cedar was obtained. Dead or dry pines were often found in large quantities, some of which would make three poles of suitable size. In some localities the poles had to be cut in the mountains, and hauled over one hundred miles. Each pole is twenty feet in length, and is buried four feet in the ground. Through the Rocky Mountain Pass, where the line runs, there are points where the snow is known to cover the ground to the depth of eleven feet.

The line is well put up, and is as substantial as such a line can be. It has a single wire, not exposed to damage from the falling of trees, as care was taken to avoid every thing of that kind.

The route adopted was mainly along the road, across the plains and through the mountains. To shorten distances, where the road ran in a serpentine form, the telegraph takes a direct line, following the general coure of the road. The track pursued by the western trains over the plains is very crooked, often made so by the cattle dying in the path.—When an animal falls, its carcass is seldom removed from the track, except as the wolves carry it away by piece-meal; and the trains which follow turn out to avoid it, thus making a crooked track, for the bones of thousands of animals lie bleaching along the great paths that lead from the Missouri to the Pacific.

The constructors of this line met with no hostile Indians, though they saw many of the natives along the way, and sometimes suffered by their thieving depredations. The Indian Agent at Deer Creek, sixty-five miles above Fort Laramie, told Mr. Starr that one of the Sioux chiefs conversed with him about the telegraph project before the poles were set, and said that he understood that poles were to be set sixteen feet high, and strung with wires closely from top to bottom. As this would make a wire fence, all the buffaloes and other game would be kept from coming down to the south. He looked upon the project with disfavor; but when he understood that there was to be but one wire, and that sixteen feet above the ground, he was quite relieved of his fears, and appeared to be satisfied. Speaking of the manner in which the natives regard the telegraph, Mr. Starr says the antelopes were timid and distrustful. Herds of them crossing the plains would stop when they came to the telegraph, and cautiously examine the poles before venturing to pass between them.

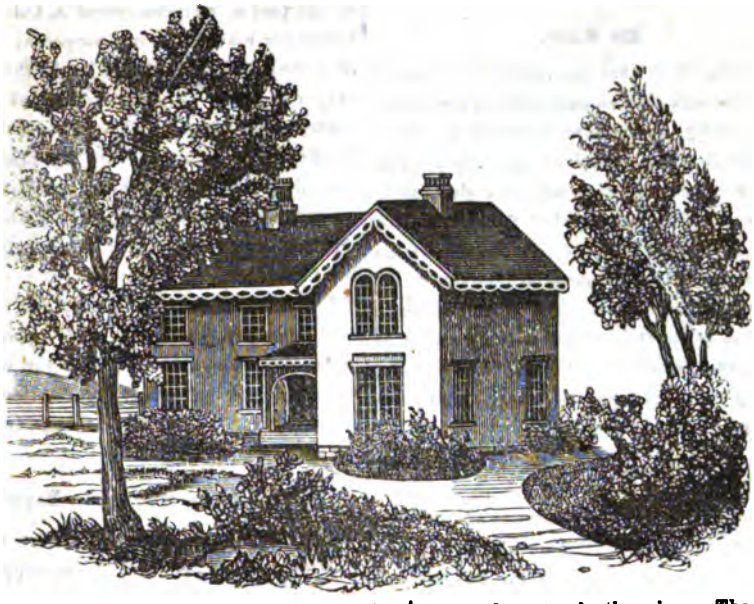
The stations of the telegraph operators are chiefly at the stations of the mail company, from fifty to one hundred miles apart. There are usually two or three persons at each station, taking care of the mules of the stage company, and these are all the society the operator has. The work of repairing the same must, for the present, at least, be performed by the operators going out when they find communication with the next station interrupted. The duty of an operator and repairer is any thing but a pastime, and to perform it well requires hardy, courageous men, who are not afraid to be alone, and to contend with snow storms and whatever else they may meet in that vast wild region over which they must sometimes travel. The right men will, in time, be found in the right places; and of the successful working of the telegraph to the Pacific, none are more confident than the men who constructed it, and who, therefore, best know what obstacles are in the way.

The First Steamboat.

We have not far to look for the first germ of steam navigation. That huge model, which appears to be a combination of two funnels and a number of chains working over wheels, is the parent marine engine. As early as the year 1787, Patrick Miller, of Dalswinton, Scotland, engaged himself in making experiments with double and treble boats, which he propelled by means of wheels placed between them worked by manual labor; in the following year he induced Symington, an engineer at Wenlock Head, to apply to it a marine steam engine he had invented. This engine propelled the boat along Dalswinton Lake at the rate of five miles an hour. This was undoubtedly the first attempt ever made to use steam as the motive power in a vessel, although it was not the first practical steamboat. The engine, which belongs to the earliest history of that invention, is what is called an atmospheric engine, that is, the piston is raised by the action of steam, and then it is forced down by atmospheric pressure. The history of this curious parent of steam navigation is worthy noting.—After the trial in the boat the engine was removed to Mr. Miller's library, where it remained until his death, in 1815; in 1828 it was sent by his son, packed in a deal case, to Messrs. Coutts & Co., in the strand, where it remained until 1837, and finally it found its way to a plumber's in Edinburg, who flung it aside with the purpose of melting it. However, the model was rescued from destruction in 1855, and was restored to its former working condition by Messrs. Penn & Son in 1857.—*Once a Week.*

Sugar Imports.—The imports of Sugar in the four principal ports of the U. S. for the past four years have been as follows:

1858.	1859.	1860.	1861.
281,64.	296,429.	364,463.	268,979 tons.

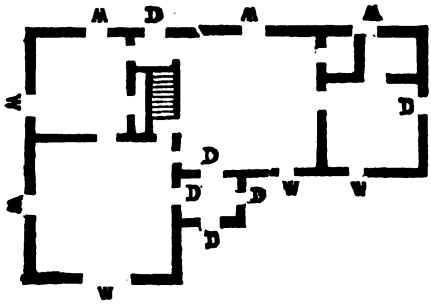


Cheap and Convenient House.

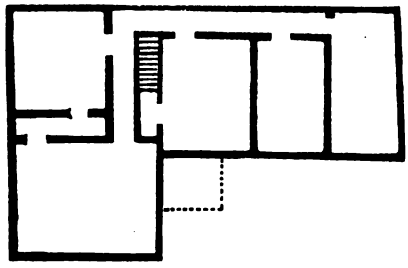
A friend writes requesting the publication of a plan "for a convenient farm house, that would cost $800 or $1000." For his accommodation and that of others who may have a new house in contemplation, we furnish in this number an engraving of a neat and simple dwelling which should be built for just about that sum.

It does not present a very imposing appearance, but looks modest and cozy, as an eigh hundred dollar house should.

As will appear by the ground plan, there



is room below for a parlor in front, a bed-room in the rear of this, and for a dining room, kitchen and pantry in the wing. The portico opens into both parlor and dining or sitting room, affording a pleasant place for sitting during the evenings of summer, and a protection against the driving storms of winter.



The second floor is divided up into five sleeping apartments—two over parlor and family bed-room below, and three in the wing.

If we were, eurself, desiring to build in accordance with this general plan, we should incline to add another hundred dollars and make the chambers higher—certainly not less, than 9 feet; the lower story being 10.

In the next number we will furnish another "cheap and convenient farm house," costing $1000 to $1200.

THE MINER.

The Miner.

Believing, first, that the mining interests of Wisconsin rank only second to the Agricultural, and secondly, that those interests would be promoted by the record of important facts, discoveries and statistics, we have decided to open a Department for that purpose in the FARMER, which being the only journal exclusively devoted to the industrial interests of the State would seem to do less than justice to itself and to the undeveloped mineral resources of the State, should it fail duly to recognize this important source of our wealth and prosperity as a commonwealth.

Henceforth, let it be understood, therefore, that all practical miners and scientific gentlemen who desire the advancement of our mining interests and who may be able to communicate anything of value on the subject, are hereby cordially invited to make themselves at home in this department of our paper. Published in convenient form for preservation and reference, we doubt not that some enterprising gentleman in each mining district, will gladly avail himself of its columns for the purposes above named.

Kaolin, or Porcelain Clay—Beds of it in Wisconsin

MR. EDITOR:—The Kaolin of which I spoke the other day, and upon which I promised to furnish a short article, is found near Grand Rapids, on the Wisconsin river. It was first noticed by Mr. John Poad, and others, who were exploring that region for Mineral Veins, and specimens of it brought back and presented to me. The party afterwards sent a box of it to England to have it tested, and it was pronounced to be equal to the best English Clay. It may be necessary for me to say, for the benefit of some of your readers, that Kaolin is the Chinese name for porcelain clay, that material out of which China-ware (so expensive in this country) is made.

I cannot speak of the geological position and extent of this clay bed as I would wish, not having visited it myself, but am assured by the parties who discovered it, that it is sufficient for manufacturing purposes; and from their description, I have no doubt the beds are very extensive. The importance of this discovery will appear, when we consider that Kaolin is found in but very few places in the United States; and nowhere, that I know of, in sufficient quantities, to justify the investment of capital necessary to manufacture it, but here.

I hope to explore this part of the State myself sometime during the next summer, after which I shall be able to furnish you with more extended and important information on this discovery. JOHN MURRISH.

MASO MANIE, Feb. 18, 1862.

The Lake Superior Copper Regions.

The Ontonagon *Miner* gives the following statement of shipments from the copper mines of that district for the past season:

	Net lbs.		*Tons.*	*lbs.*
National,	1,868,196	or	934	196
Minnesota,	3,760,800	"	1,880	800
Rockland,	938,034	"	469	34
Superior,	79,228	"	39	1,228
Flint Steel,	3,039	"	1	1,039
Nebraska,	14,683	"	7	683
Knowlton,	22,799	"	11	799
Ogima,	19,360	"	9	1,360
Evergreen Bluff,	125,895	"	62	1,895
Ridge,	62,138	"	31	138
Adventure,	6,844	"	3	844
Toltec,	4,445	"	2	455
Bohemian,	15,160	"	7	1,160
Total,	6,920,731	"	3,460	731

In looking over some statistics of production of the mines of this region, we had the curiosity to compare the increase therein shown with the increase of population. We find that in 1854 the population of the two copper counties of the Upper Peninsula (Houghton and Ontonagon) was 7,985; the production of ingot copper was 1,488 tons, and the value about $495,-200. This would give a yield of 373 lbs. to every man, woman and child, making each one a producer to the amount of $75 60. In 1860, after an interval of six years, we find the population amounting to 13,810 souls, producing 6,000 tons ingot copper, worth $2,400,000.—This is at the rate of 866 lbs., or $173 20 to each individual. The increase in the six years, as exhibited by the above figures, is, for the population, about 74 per cent.; for the production and value, 310 per cent.

Prof. Whitney's Survey of the Lead Mines—First Vol. of the Geological Report of Wisconsin.

There is an old adage to the effect, that, if we employ a doctor we should not refuse to take his medicine. But, unless we are mistaken either in the character of the Geological Report just published or as to the settled convictions of practical miners in the Lead Region of Wisconsin, a majority of those most directly concerned in the progress of the mining interests will find it difficult to accept the conclusions of Prof. Whitney in relation to the lead-bearing character of the Lower Magnesian Limestone.

It is nevertheless true that the State can afford to know the facts, and if there is really no lead in the lower rocks, or if there be not a sufficient quantity to warrant the expense of working the mines to that depth, the sooner we find it out the better. It should not be forgotten, however, that previous explorations have led to directly opposite conclusions, to-wit: that there are undoubtedly immense quantities of workable mineral in that rock.

The question at issue is one of great importance to our State, and it is hoped that the Professor has not been influenced by pre-conceived notions to take a position which the facts will not fully warrant. The mining experience in England stands in favor of the lower deposits, and there are said to have been discoveries of lead in the Lower Magnesian, where it crops out along the streams; so that practical miners may reasonably be expected to be skeptical as to the soundness of Professor W.'s conclusions until extensive and well directed explorations in the lower rock shall have been made with invariably negative results.

Of the Report as a whole, and upon this particular subject, we shall take occasion to speak more fully when we have given it a more thorough examination. It is handsomely printed on excellent paper, with numerous wood engravings and maps, and, if scientifically correct, will be an honor to the State.

SCIENCE, ART, STATISTICS.

From Hunt's Merchant's Magazine.

The Arctic Expedition of 1860.

OFFICIAL ACCOUNT OF THE RECENT VOYAGE OF THE UNITED STATES, BY DR. HAYES.

[Concluded from Feb. No.]

My party being necessarily small, I could not send into the field more than a boat's crew of able-bodied men, and these I had always considered as merely auxiliary to the dogs, and, without the dogs, altogether unavailable for the services to be performed.

My anxiety was fully shared by Mr. Sonntag, the astronomer of the expedition, and my able second in command. He early volunteered to go south to endeavor to open communication with the Esquimaux of Northumberland Island, with the hope of obtaining dogs. His former experience when with Dr. Kane had familiarized him with all the phrases of Arctic travel, and no one could have been better fitted for the the task. Besides the usefulness of the proposed journeys, it was peculiarly in harmony with his active and enterprising spirit. His offer was accepted, and he left the vessel on the 22d of December, with a sledge and nine dogs, accompanied by the Esquimaux Hans, intending to make the journey and return during the moonlight period then setting in. It is my sad duty to inform you that he died while absent.

It appears, from Hans' report, that the immediate cause of Mr. Sonntag's death was cold. Hans, upon his return, stated that they travelled the first day to Sutherland Island, where they camped in a snow hut, and were there detained two days. Their next camp was at Sorfalik, a deserted Esquimaux station on the coast, fifteen miles below Cape Alexander, where they built another snow hut. They set off next day directly for Northumberland Island. The ice, although covered with a light snow, appeared to be sufficiently strong. Mr. Sonntag walked in advance of the sledge, and, when about five miles from the land, he came upon thin ice, and broke through. Hans assisted him out of the water, and they immediately put back for Sorfalik. Before that place was reached Mr. Sonntag was insensible, and he died soon afterward. His remains were subsequently brought to the vessel, and were interred near the observatory.

Hans succeeded in reaching the Esquimaux; but by over-driving and injudicious management, five of the dogs were killed, and the remaining four were permanently injured. I had now only six animals. The Esquimaux came to the vessel some weeks later, and from them I obtained by purchase a sufficient number to make two teams of seven each.

It was not until late in March that the ice formed around Cape Ohlsen, and the land be-

ing too mountainous for sledge travelling, I was not, until that time, able to set out northward. At that period I made a preliminary journey to Fog Harbor, and there established a provision depot. I availed myself of this opportunity to visit Rensselaer Harbor, Dr. Kane's winter quarters. No vestige of the advance was discovered. She has probably drifted out to sea with the ice. During this journey the coldest temperatures of the cruise were recorded. On one day the thermometer sank to 66½ degrees, and on another to 68 degrees below zero. We camped at night on this, as well as on all subsequent journeys, in the snow hut of the Esquimaux.

Active preparations had been making since January for the spring campaign, and we were ready for the final start on the 4th of April.—The chief equipment consisted of a metalic lifeboat, twenty feet in length, mounted upon runners, provisions for a boat's crew of six persons for five months, provisions for seven persons and fourteen dogs for six weeks, together with a careful allowance of fuel for the above named period. We started from the vessel on the above-mentioned date, with our entire equipment, the boat and its cargo being drawn by the whole available ship's company and fourteen dogs. Mr. Radcliff, with two men, were left in charge of the vessel.

Upon reaching Fog Harbor we made nearly a due north course, intending to reach the west coast and travel thence upon the land ice. We soon encountered hummocked ice of extraordinary thickness, through which it was often necessary to break a passage with axes and shovels. It finally became evident, from the slowness of our progress, that the entire summer would be consumed in reaching the west land, even if the boat could be transported to it at all. Being well assured that nothing could be accomplished with the boat expedition, I sent the main party back on the 28th of April, and continued northward with three companions and two sledges.

The ice grew worse as we advanced, and we were fourteen days in reaching the west coast, a distance, in a direct line, of only forty miles. From this fact you can form some estimate of the character of the ice over which we travelled. The severity of the labor broke down the dogs and I was compelled to feed to them a double ration, thus consuming rapidly the provisions, and proportionally shortening my northward journey. Reaching the west coast at Cape Hayes, we travelled along the land through Kennedy Channel until the 18th of May, when, our provisions being exhausted, we were compelled to turn our faces southward. The latitude attained upon that day was 81 degrees 35 minutes, a degree of northing which I believe not to have been exceeded or equalled by any explorer except Sir Edward Parry. The land was taken possession of in the name of the United States, with the usual forms, and the flag which was used upon the occasion has covered the most northern known land upon the globe.

Although thus early in the season the ice in Kennedy Channel was everywhere much decayed and unsafe, and in some places was entirely gone. In one extensive pool a flock of water-fowl was discovered. I entertain no doubt that the ice of Kennedy Channel was broken up and dissolved at a very early period of the summer. It was in this channel that Dr. Kane discovered an open sea, at a period of six weeks later, in the summer of 1854.—Before reaching the vessel I lost all but seven of the remaining dogs, and the ice having broken up around Cape Ohlsen, further exploration to the northward was impossible during the present season.

The six weeks subsequent to my return to Port Foulke were occupied in preparing the vessel for sea, in completing some unfinished surveys, in making magnetic and other observations, in collecting specimens of natural history, in photographing the scenery and objects of interest in the vicinity. The schooner had been much damaged by the ice encounters of the previous summer, and it was found impossible to restore her original strength. Being without a carpenter, a large share of the labor of repairs fell upon Mr. McCormick, the sailing-master of the expedition, of whose ready ingenuity and practical skill I cannot too warmly express my acknowledgements. The ice broke up around the vessel on the 10th of July, and we put to sea on the 14th.

After much difficulty and two trials we reached the west coast, twelve miles south of Cape Isabella, and, being unable to pass the cape, we dropped anchor, and on the 28th I made a journey to the north side of the cape in a whale-boat, and from an elevation of six hundred feet obtained a view to the northward. In that direction, fifteen miles above Cape Isabella, the ice was solid and unbroken as far as the eye could reach.

To the eastward the pack ice was heavy and impenetrable. To penetrate the strait under these circumstances, with the view of reaching a practicable point for future sledge operations with my reduced force, (for I had now only five dogs,) was clearly impracticable, and believing that I was not justified in incurring the heavy expense of another year's absence without a prospect of corresponding results, I reluctantly abandoned the field and turned southward.

Taking Whale Sound on the way, I completed the survey of that remarkable inlet, and obtained there an excellent set of magnetic determinations and some photographs of the natives, the glaciers and other objects of interest.

After boring through the ice of Melville Bay for 150 miles, we reached the southern

water, and entered the harbor of Upper Navik on the 14th of August. There we remained ten days, engaged during that time in various scientific explorations. On the 1st of September we reached Corham, or Lievely, and were there similarly occupied. We were ready for sea again on the 6th, but a succession of southwesterly gales detained us until the 17th, when we again put to sea, and having a fair wind, we were, on the 22d, 200 miles to the southward of Cape Farewell. From that time until the 9th of October we encountered constant southerly weather, with frequent gales. When off Halifax we sustained serious damage, and were obliged to put into that port for repairs. We are now again ready for sea, and expect to leave this port to-morrow.

I have to regret that we could not accomplish a greater northing, but situated as we were, with Smith's Strait to cross, and with a small force at command, I can but regard the summer exploration as fortunate and successful. The field of research, although more limited than I had anticipated, was, however, new, and my observations in different departments of physical and natural science will, I feel assured, meet the approbation of the patrons of the expedition.

I am well satisfied that they will be found fully to justify the labor and expense which they have cost. The unfortunate accident which occasioned the untimely death of Mr. Sonntag caused a serious loss to the expedition. The system of observations and experiments which we had planned in concert had already accomplished important additions to Arctic science, when death deprived me of his invaluable assistance; and with the duties incident to Arctic exploration in the field pressing constantly upon me, I was not always able to execute the plans which we had devised. My officers, however, on all occasions contributed their best assistance, and I was by them relieved of many onerous duties. I am especially indebted to Mr. Radcliff, assistant astronomer, for his sealous assistance in the work at the observatory, and for his assistance in taking photographic views; and to Messrs. Knorr and Starr I owe obligations for valuable aid in collecting specimens of natural history and other scientific duty.

I will mention, in conclusion, that I am still of opinion that Smith's Strait can be navigated with steam. Under sails alone I am satisfied that it cannot. It is my hope to be able to renew the attempt with a small steamer.—With this view I have left some stores at Port Foulke and at Upper Navik.

With the hope that this may find you in the enjoyment of health and happiness, I remain, very sincerely, your friend and servant,

J. J. HAYES.

To Henry Grinnell and others, New-York, Committee on behalf of the American Geographical and Statistical Society.

NATURAL HISTORY.

The "Sapsucker," shall he be Killed or Protected?

MR. EDITOR:—The farmer, although completely dependent on Nature and her laws, is generally ignorant of them—sometimes to an incomprehensible degree. Perhaps this is not so much to be wondered at, from the fact that educated men sometimes teach them with arguments calculated to mislead the ignorant, the most absurd doctrines, which are oftentimes productive of the most mischievous results. These arguments have weight with the farmer in a great many cases, from the fact that they are made by men who have the reputation of being scientific, and who are supposed to understand the subjects of which they speak.

A lecture on destructive birds (including the Sapsucker *Picus villosus*,) delivered by Dr. Hoy of Racine before the Illinois Horticultural Society, is an illustration of this fact and another instance in which carelessness or ignorance is allowed to circulate doctrines unsound or false in character and mischievous proportionately to the faith with which they are received and the credibility of the authority by which they are advanced.

This lecture is reported in the "Illinois *Farmer*," Vol. VII., No. 1, page 17.

The Dr. illustrated the lecture with specimens of birds, insects and sections of wood. After describing the Sapsucker and mentioning the different birds, it could not and should not be confounded with, he remarks that *some naturalists* contend that this bird is insectivorous, but he affirms that although "it may occasionally take up a beetle, its food is the liber and cambium bark of trees, and his drink the sap, hence its name the Sapsucker;" the Dr. then describes some of its habits as follows:

"The Sapsucker is a migratory bird, and arrives in Racine, Wis., about the 15th day of April, not varying more than five days. On his arrival he attacks the sugar maple, pine, spruce and silver poplar; but the sugar maple is the favorite at this time. He also attacks thrifty growing fruit trees. The damage to be

guarded against at this time more particularly is to the poplars and maples. About the last of June they return to the deep wood to breed, from which they make daily forays to the orchards and gardens, doing more or less damage. After the breeding season is over, the old birds, with their broods, return to the fields, orchards and gardens of the farmers and others and go quietly to work to destroy thousands of valuable fruit, shade and ornamental trees. Returning with the new recruits, they attack the apple, the pear and the mountain ash with a vigor that, unless they are killed at the outset, an immense number of valuable trees will be killed or seriously injured. While in the deep forest he lives on the ironwood and lynn, mainly, as these trees furnish sap and an abundance of cambrium or cambium and liber. Yet they prefer the smooth, thrifty trunks of fruit tree, as is proved by their daily visits to the orchards." Dr. H. then repeated his recommendation to destroy them on every occasion.

The above remarkable statements seem to be uttered in good faith, but they could not certainly result from the personal observation of the doctor regarding the habits of this bird, but must rather be a lingering remnant of that superstition which farmers have *nearly* and *naturalists antirely* done away with. I am persuaded that if the doctor had but given his attention for one hour to this bird as it works actively in the orchards and woods, he would never have made the above assertions; but it is to these careless and inconsiderate opinions which men of education promulgate without regard to *facts* that the farmer owes his ignorance of nature, and which render so many of his operations unsuccessful. The Hairy Woodpecker, *Picus villosus*, is called the Sapsucker, from the belief that it sucks the sap of trees; but that is a mistake, as an hour's observation of the habits of this bird will decide; and if this is not satisfactory, let the observer kill one of them and open its crop, and he will find there nothing but insects, their larvæ and eggs: that it feeds on the liber and sap of trees is disproved by the fact that it works as actively on dead limbs of trees, wood piles, fence posts, &c., in which there could not possibly be a drop of sap, and by the invariable absence of either in the crop. The perforations in the bark which this bird makes are done while it is searching for insects and their larvæ; while thus engaged it labors with much energy and activity, frequently spending several minutes at one spot, rather than suffer the vermin, which are concealed beneath the bark, to continue their work of destruction unmolested. On such occasions it becomes so intent on its occupation as to allow one to approach quite near the scene of its operations, and it may often be seen drawing out the larvæ from the holes it has made and swallowing them.

The insects both in the larva and perfect state which it destroys are all greatly injurious to fruit and forest trees; among the former may be mentioned the apple tree borers of which two species attack the smaller limbs and branches, and one or more the trunk; the peach and pear tree borers, and multitudes of small insects which mine the bark and otherwise injure the tree. Forest trees are perforated in various directions by coleopterous larvæ which utterly ruin the wood for anything but fuel. Such is the immense reproductive power of these insects that unless their numbers were diminished greatly by this family of birds, the immense forests of this country would be completely destroyed, at least for timber purposes. I do not intend in this short, hastily written paper to enter into details regarding the different insects which are destroyed by the woodpeckers, nor the methods and amounts of injuries which they do. I wish merely to call the attention of the farmer to the fact that these birds are his friends instead of his enemies, (which he can prove with very little trouble) and that he should protect them and encourage them in the work which nature has designed them for, and which they are willing to perform.

E. A. SAMUELS.

BOSTON, Mass., Feb. 5th, 1862.

EDUCATIONAL.

Writing in our Common Schools.

The value to the world of the art of writing, cannot be estimated. That the rapid progress now made in civilized nations depends, to an unlimited extent, upon written language, will be generally admitted.

It is not necessary, in this age, to speak or write of the importance of this branch of common school study, for all must know and feel, to a great extent, its necessity. But the question is, how shall we, how shall our children be instructed in this important branch. It is expected that the masses in our State will receive their instruction in the common school, under the free school law, which provides, without qualification, for the instruction of every child in the State, over four and under twenty years of age, in all the common English branches.—It is expressly stated that writing shall be taught in every district school in the State; and this is a grand provision of the law, and should be thoroughly executed. But from some cause, writing is shamefully neglected in many of our schools; this is not as it should be, for the masses are dependent upon the common school for all the instruction they will receive in writing. Some may say that it would be better to attend a school established expressly for the purpose of giving instruction in this particular branch. This, perhaps, would be the better plan for those who may think themselves able to sustain the extra school; but it is no argument in favor of omitting it in the common school, for under such circumstances, very many, who would otherwise become good writers, would know but very little of this useful art. District Boards and parents should give sufficient attention to this matter—see that an opportunity to write in their school is offered to every child who may be old enough to learn to write, notwithstanding the opinions of some who think that it may create too much disturbance in the school room.

Every well-regulated school, with a live and systematic teacher, may have as much system, order and time in the exercise of writing as in any other exercise. Parents, it is for you to *know* that *your children* are being properly instructed. It is the business of the teacher to instruct, but yours to know that your children are acquiring a proper education. Do not be put off with the idea that writing, under any circumstances, should be omitted in the common school.

O. P. D.

PALMYRA, Feb. 15, 1862.

Country School-Houses.—No. 1.

This is not the season for building, to be sure; but it *is* pre-eminently the season for considering important questions and laying plans for future operations. Especially is it a time for getting correct impressions of the uncomfortableness of the old school-house, which ought really, either never to have been built, or at least to have given place to a better one years ago.

It is important to have good comfortable dwellings for our families, and substantial, secure and capacious barns for our crops and stock, but certainly not more important than that the place where our children are to spend so much of their time during the most impressible and formative period of life. No, the school-house has a strong claim upon the attention, time and money of the farmers of every rural district wherever it may be; and the father who will not to the best of his ability and cheerfully meet this demand is—simply a barbarian.

In the construction of a school-house, four questions require to be carefully considered:

1. What construction will give the greatest security to the health of the occupants?

2. What style will be best adapted to the scenery, in the midst of which it is to be placed, most pleasing to the eye and mind and most conducive to a refined and correct taste?

3. What kind of structure will be the most substantial?

4. How and of what material can it be built most economically?

But there is one other question to be considered first, to-wit: *What shall be the location of the school house?* Of this, a few words.

With many this question will have but two points worthy of consideration—centrality and cheapness of land. It cannot be denied that both of these points are worthy of consideration. The matter of centrality in the district is particularly so; nor is the cost of ground unworthy of attention in a new country and in hard times. But neither one nor both of these considerations should decide the question of location.

Of course, it would not be proper that the school should be located at a point far removed from the center of both district and population—unless there be something in the district's topography, such as a lake, swamp or other circumstance of that character which must necessarily preclude the possibility of such centrality—but it will not unfrequently happen that considerations of heathfulness and pleasantness of locality should be allowed to outweigh the mere matter of distance. Children can better afford to walk a little further than to spend the hours and days of school in some barren, sun-scorched hill, or on the border of a repulsive disease-producing swamp.

If the health of your children be worth anything to them and you; if their happiness during the period of youth, when the days may be joyous and golden or sad and wearisome, according to their surroundings, be worthy of a little sacrifice; if you would make for them sunny memories and better lives in the maturer years of manhood and womanhood, then we entreat you, be not unmindful of where you plant them to-day. If there be one spot in your district, which is naturally more beautiful or more easily susceptible of such improvement as would make it a charming and attractive spot, and that spot be not so far away from the centre of present or prospective population, that to occupy it would prove too great an inconvenience to the children most remote, by all means, buy it—even though at an extravagant price—and there build the school-house.

The additional cost of such a location will be but a trifle for the long years through which the benefits of its occupation will extend; and you could devise no plan, for the execution of which, your children will so bless your memory in after life.

THE HOME.

Snow Sculpture.

BY GEORGE W. BUNGAY.

On hills and forests bare and brown,
I see the silent snow come down,
So soft and white,
Like showers of blossoms winds have blown
From flowers of light.

Faster and faster fall the flakes,
On the dim woods and silver lakes,
From stormy skies,
Like soft words on a heart that breaks
When pity sighs.

Ye wailing winds, that sadly sigh
Above the graves where heroes lie,
In sorrow blow,
And build white columns, broad and high,
Of stainless snow.

Let pyramids of spotless hue
Point to the bending arch of blue
Without a stain,
And mark the place where sleep the true,
In battle slain.

Ye unseen sculptors in the air,
Go carve designs in beauty there,
And 'grave the name
Of BAKER deep in letters fair
As wreaths of fame.

Go where the bending willow weeps
Over the tomb where ELLSWORTH sleeps,
And softly write
The epitaph that history keeps,
In letters white.

Quarry from clouds a shaft to tower
Above the spot where sleeps the flower
Of armies true,
Till blossoms rise in sun and shower,
Red, white and blue.

Parental Influence.

How strong is the instinct of parental love. Parents suffer no such agony in their own persons as they can suffer through the person of a child. Parents can bear the palpitating heart, the convulsed muscle, the throbbing pulse in themselves; but when the tender organs of a loved child are torn with these agonies, it becomes intolerable. In the aggregate, parents suffer more through the profligacies and criminalities of children than through their own.—They may repent of their own and allay the suffering, but when a child's wickedness runs on to ruin and death, then, while life lasts, its torturing fires continue to burn in the parental breast. As a general rule—I do not deny that there are not exceptions, but as a general rule—children turn out as they might be expected to turn out from the treatment received from parents. What untold agonies, not only in the open day and in the thronged market-place, but in solitude and at midnight, do parents suffer; what soreness of heart, even such that the tenderest sympathy tortures it like fire, does the mother feel for a profligate son, while he, as if urged along by some demon, rushes on to dark-

er shame and a deadlier perdition. Yet the time was when that child's heart was as soft as wax, when his feelings, like an aspen leaf, could have been moved by a breath. Then the mother could have supplied the very moral nutriment that should have been embodied in the growth of its soul, just as the milk from her own breast became a part of its body. Then she sat upon a throne, and weal and woe were ministers ready to do her bidding. Then she was, like a goddess, decreeing the future, originating predestination, telling fate himself what he should do. But, for some vanity or frivolity of the hour, she forfeited her queenly prerogatives; she was an idiot in casualty, and a lost child and a broken heart are her reward.—*Horace Mann.*

MORAL BEAUTY.—What is the beauty of nature but a beauty clothed with moral associations? What is the highest beauty of literature, poetry or fiction and the fine arts, but a moral beauty genius has bodied forth for the admiration of the world? And what are those qualities of the character which are treasured up in the memory and heart of nations—the objects of universal reverence and exultation, the themes of celebration, of idols of admiration, and of love? Are they not patriotism, heroism, philanthropy, disinterestedness, magnanimity, martyrdom?

HEALTH AND DISEASE.

How to Avoid Colds.

Keep the feet dry and warm, the head cool, the body just sufficiently protected as to be comfortable.

Let the transitions from cold to warm, and from warm to cold be gradual. And to this end, when you pass from the cold atmosphere to the warm air of a room, after the first few moments, lay off all superfluous garments—hat, over-coat, muffler, over-shoes—and thus prevent that excessive relaxation of the tissues, which is virtually an opening of innumerable doors, and inviting the enemy of health to come in. But this is only half the precaution necessary. When you again go out into the cold, even though for a short time, put on as much clothing as may be necessary to prevent a sudden penetration of cold, and contraction of the tissues of the body.

The wearing of woolen garments next the skin is, for the reasons suggested, considered by the best authorities a wholesome precaution. Wool is a non-conductor, and will thus have the effect to render changes of temperature less sudden.

If exposure to intense cold for a considerable time be necessary, there is nothing of greater importance than a thorough protection of the vital parts—a warm covering for the chest and the back between the shoulders.

In the spring, colds often arise from a sudden check of perspiration. The weather seems so mild that less danger is apprehended from laying off the coat, made uncomfortable by exercise, or sitting down to rest without additional covering. Farmers are especially liable to colds from this cause.

The human body is a wonderfully delicate organization. If carefully treated it is nevertheless capable of performing its various functions perfectly, for a great many years; while, on the other hand, a single abuse as simple as the simplest above-named, may entail upon the violater of physiological law, serious disease and premature death.

Remedy for Cold Feet.

It is impossible to have vigorous health if the feet are habitually cold; no amount of external covering can keep them warm. Wearing pepper and other irritants in the stockings, is generally inefficient, is always hurtful in its tendencies, and never accomplishes a permanent radical good. One of the most uniformly efficient means of keeping the feet warm is to wash them in water at least as cold as the atmosphere of the room, night and morning; let it be done within a minute in very cold weather, then wipe and rub them rapidly and thoroughly with a very coarse towel, dress, and when practicable, take a walk, or dry them by the fire, rubbing them well with the hands.

In addition, let half an inch of curled hair be basted to a piece of cloth and slipped in the stocking, the hair touching the soles of the feet to titillate the skin, and thus aid in drawing the blood thither to warm them, The hair conducts the moisture from the feet to the woolen cloth and thus keeps them dry. These hair-soles should be placed before the fire at night, so as to be thoroughly dried by the morning. Cork-soles absorb moisture from the shoe and the feet also, and require several days to be thoroughly dried. India-rubbers confine the dampness about the feet, hence they should be promptly removed as soon as the wearer ceases walking, nor should they be used except in muddy, slushy weather.—*Journal of Health.*

Diptheria.

This prevalent disease, which has carried off so many little ones the past season, is spoken of by the New York *Examiner* as follows:

Diptheria, in its early stages, may be recognized by any person of ordinary capacity, by two marked symptoms; the sensation of a bone or hard substance in the throat, rendering swallowing difficult and painful, and a marked fœtor, or unpleasant smell of the breath, the result of its putrefactive tendency. On the appearance of these symptoms, if the patient is old enough to do so, give a piece of gum camphor, of the size of a marrowfat pea, and let it be retained in the mouth, swallowing slowly the saliva charged with it until it is all gone. In an hour or so give another, and at the end of another hour a third; a fourth will not usually be required, but if the pain and unpleasant breath are not relieved, it may be used two or three times more, at a little longer interval, say two hours.

"If the child is young, powder the camphor, which can easily be done by adding a drop or two of spirits of alcohol to it, and mix it with an equal quantity of powdered loaf sugar, or, better, powdered rock candy, and blow it through a quill or tube into its throat, depressing the tongue with the haft of a spoon.—Two or three applications will relieve. Some recommend powdered aloes or pellitory with the camphor, but observance and experience have satisfied us that the camphor is sufficient alone. It acts probably by its virtue as diffusible stimulant and antiseptic qualities."

WIT AND WISDOM.

— Cold in the head isn't half so common as cold in the heart; but it is a great deal oftener complained of.

— Give to grief a little time, and it softens to regret, and grows beautiful at last, and we cherish it as we do some old dim picture of the dead.

— Half the secrets in the world are disclosed in order that those who possess them may let their friends know that they hold them.

— The greatest friend of Truth is time, her greatest enemy is prejudice, and her constant companion is humility.

— A jolly farmer, returning home in his wagon after delivering his load of corn, is a much more certain sign of national prosperity than a nobleman riding in his chariot to the opera or play-house.

— The mother's heart is the child's schoolroom.

— Bow to destiny. One of these days he may be polite and return the bow.

— Hunger never saw bad bread.

— What maintains one vice will bring up two children and—*pay for half a dozen newspapers.*

— "Plow *deep* while sluggards sleep, and you will have corn to sell and to keep."

— It is said that some mothers are grown so affectionate, that they give their children chloroform previous to whipping them.

—"What's in a dress?" asks a popular writer. That depends on who the wearer is.

— From using glasses on the nose, you see an object single; from using them under the nose you see it double.

— Water is not a fashionable beverage for drinking to your friend's health, but it is a capital one for drinking to your own.

— Old Grimwig says that tears at a wedding are only the commencement of the pickle that young folks are getting into.

— Although the Rebels deny that they are assisted by the Indians, it is certain that their Potomac boats rely for safety on the *Creeks.*

— The Norfolk *Day Book* speaks of Yankees having India-rubber consciences. We do not doubt that many of the Virginians would be glad of India-rubber or even leather *soles.*

DOMESTIC ECONOMY.

The way Eggs Spoiled and the way they will keep.

EDITOR WIS. FARMER:—Last August I read in the *Wisconsin Farmer*—taken from the *Genesee Farmer*—a method of keeping eggs a year, by laying them in ashes. About two months ago I laid down six dozen as the notice directed, and put them in the cellar; and upon going to them a short time since, I found every one spoiled; they seemed like boiled eggs, and tasted of lye. So much for that recipe.

I believe the best method of keeping eggs is to stand them up, small end down, in bran, saw-dust or anything that will keep them up—just as well without anything if you can make them stand, and they will keep through the Winter, if you commence in the Fall to lay them down. Yours, Respectfully,

MRS. R. GIBSON.

LEIR, Waupaca Co., Jan. 3d, 1862.

How to Cure Hams and Sides.

I trim the hams and shoulders in the usual way, except I cut the leg off close up to the ham and shoulder, to have them pack close, and as being worthless smoked; then sprinkle a little fine salt on the bottom of a sweet cask,

and pack down the hams and shoulders promiscuously, as they will best pack in, and sprinkle a LITTLE fine salt on each laying, just enough to make it show white; then heat a kettle of water and put in salt, and stir well until it will bear up a good sized potato, between the size of a quarter and a half dollar; boil and skim the brine, and pour it on the hams boiling hot, and cover them all over one or two inches deep with the brine having put a stone on the meat to keep it down. I sometimes use saltpetre, and sometimes do not; consider it useless except to color the meat. I now use my judgment as to the time to take them out of the brine. If the hams are small they will cure in three weeks, if large, say five weeks; again, if the meat is packed loose, it will take more brine to cover it, consequently more salt will penetrate the meat in a given time than if it is packed close; on this account it is useless to weigh the meat and salt for the brine, as the meat must be kept covered with the brine, let it take more or less. Leave the casks uncovered until cool. When the hams have been in the brine long enough I take them out and leave them in the cellar if the weather is not suitable to smoke them. I consider clean corn cobs better for smoking meat than anything I have ever tried, and now use nothing else; continue the smoke until it penetrates the meat, or the skin becomes a dark cherry brown. I then wrap the pieces I wish to keep in paper any time before the bugs or flies have deposited their eggs on them, and pack them down in casks with dry ashes in the cellar, where both hams and shoulders will keep as good as when packed, through the summer or year. Cured in this way it is hard to distinguish between the shoulder and ham when boiled.

A large ham will often taint in the middle before salt or brine will penetrate through.

HOW TO CURE SIDE PORK.

So much for smoked meat; now if any one wishes to have his side pork a little better, and keep better than any he has ever had, let him try my way, and if he is not satisfied, let me know it through the "Ohio Farmer."

Take out the bone and lean meat along the back, cut and pack the pieces snugly in the barrel, put more salt on the bottom and on each laying of meat than will probably penetrate the meat; then boil and skim the old brine (if it is sweet) and add enough to it to cover your meat two or three inches over the top, made strong like the ham brine; and as soon as you pack your meat, pour the brine on boiling hot; it will penetrate the meat much quicker than cold brine, and give it an improved flavor.

While I was making and pouring the brine on my hams and pork just now packed, I tho't the public might be benefitted by a knowledge of my way of curing meats. I therefore publish it. Try it.—*Valley Farmer.*

GRAHAM BISCUIT.—It is said that an Arab wife can serve up a dish of dates to her lord a hundred days in the year and each day in a different manner.

Almost the same might be said of our own wheat. Graham bread I am glad to perceive is becoming a more universal favorite than it used to be, and the following is a favorite receipt in our family, which I have never seen in print. Take a small sized pan of brown flower, the usual quantity of butter-milk, soda, and salt; mix the two former thoroughly together, and having two beaten eggs and a teacup full of cream, roll out as soft as possible. The stove must be hot to have light biscuit.—*Ib.*

YOUTH'S CORNER.

[From the Little Pilgrim.]

The Little Orphan.

BY W. ROSS.

Up and down through a bright lit street,
Archie walked with little bare feet,
Knowing not which way to go—
None cared for the little boy out in the snow.

"Give," to a passer the little boy said—
"Oh! give me something—some money or bread!"
But the rich man heeded not his moan,
For his heart was hard as the hardest stone.

A lady in satin and furs passed by,
She heard but scorned the orphan's cry
For charity; yet that lady may plead,
Or of sweet human pity stand in need.

"Oh, father, mother! I wish I were dead!
I have no place to lay my head;
The world is blind and deaf to my woe;
None cares for the beggar out in the snow!"

None came—a child with golden hair
Was found dead in the street, in the wintry air;
Yet golden streets his soul-feet trod—
The orphan was safely housed with God.

[From the Little Pilgrim.]

Geographical Conundrums.

If you had bees for sale, in what island might you expect to find a market? *Celebes* (Sell Bees.)

What Cape of Newfoundland might well wear a wig? *Cape Bauld.*

What river in Massachusetts would be a desirable neighbor? *Concord River.*

What one in British America? *Peace.*—[But not until the Rebellion is crushed.—ED.]

What River in Rhode Island could be set on fire? *Wood.*

What one in South Carolina? *Tar.*

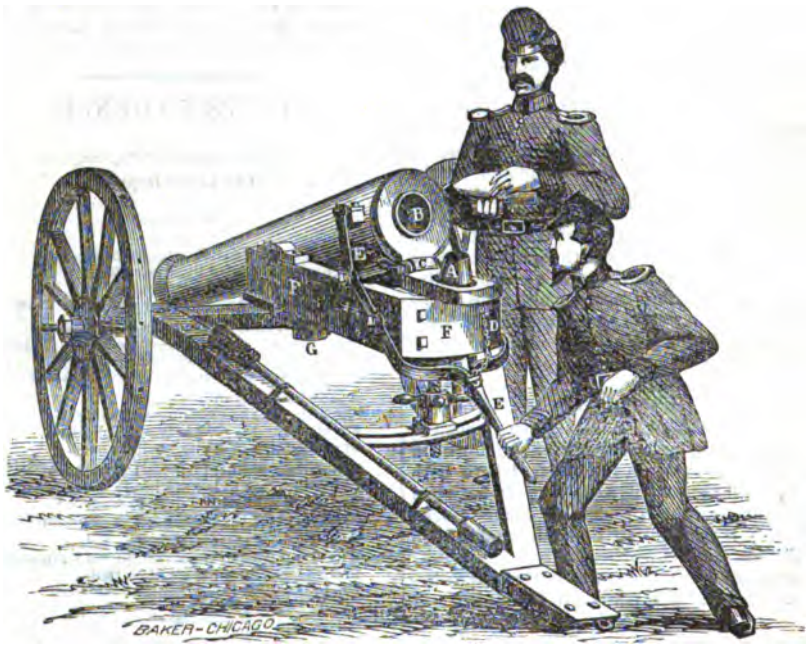
In what River in Minnesota would drunkenness like to swim? *Rum.*

What lake in Florida would a child name, asking for a kiss? *Kissime.*

WAR MISCELLANY.

Hartley's Breech-Loading Cannon.

We are indebted to F. A. Scofield, Esq., of Chicago, one of the propeietors, for the illustration herewith presented of this new wonder in the world of military ordnance. Having just this afternoon witnessed a successful trial of it in the Capitol Park, we feel warranted in endorsing the high enconium passed upon it by the military committee under whose su pervision it was recently tested in Chicago with the remarkable result of *fifty shots in four minutes*, without being sensibly heated. It was invented by Capt. R. R. Moffatt, of La Crosse, Wis., and perfected with the aid of R. W. Hartley, of the same place, whose name it bears.



The following is a simple description of the construction and working of the gun:

By depressing the handle of the lever E E, as in the cut, the breech of the Gun is raised out of the wrought iron bed-piece, F F, at the same time withdrawing the conical breech pin A, from the conical end of the bore of the gun B, by means of the chain D, which is attached to the lever, and permitting the pin to fall back and rest on the bed piece by means of the hinge C, which attaches it to the gun.

The cartridge is then readily inserted.

Now by raising the handle of the lever, the breech of the gun is lowered into the bed piece, at the same time driving in the breech pin, which pushes the cartridge to its place, ready for firing. The wide solid back of the breech-pin covers the face of the gun, and is wedged firmly against the inner face of the bed-piece, which is of wedging shape, thus making all as solid and tight as though it were but one piece of metal.

As an *additional* preventive to any escape of the gas, a shoulder projects from around the edge of the bore, fiitting perfectly into a corresponding groove around the base of the breech-pin. The horizontal range of the gun can be adjusted by turning the whole on the pivot G, the bed-piece being attached to the hand screw under it, which moves in the slide between the sides of the carriage.

It requires but three men to work the gun while it has the efficiency of a whole battery of muzzle-loading cannon. We would suggest a full and thorough test of it, under the direction of the State; and, in the event of a successful issue, that the General Government be petitioned to order the manufacture of a sufficient number for the use of our Wisconsin Batteries.

NEWS SUMMARY.

INDUSTRIAL AFFAIRS.

The State Fairs for 1862, so far as announced, will be held at the following times and places:

Wisconsin, - - - -	Sept. 22—27
Ohio, Cleveland, - - -	" 30
Indiana, Indianapolis, - -	" 29
Vermont, Rutland, - -	" 9—12

It seems to be the purpose of most of the State Societies to engage in the work with renewed spirit and energy.

The World's Fair.—Mr. Seward has just published a circular, as Chairman of the American Board of Commissioners, announcing that, owing to the failure of Congress to make any provision for an exhibition from the United States, Her Majesty's Commissioners have been notified that no national exhibition will be made on the part of the United States. He bespeaks the favor of the Commissioners, however, for all individuals whose contributions have received the sanction of the authorities appointed by this government, and expresses the hope that the number of such exhibitors may not be few. It was fully understood last fall by some of the friends of the enterprise, that Mr. Seward intended the whole thing to be a failure, and it is not improbable that his wishes may have contributed to the result thus regretfully announced.

STATE MATTERS.

The Markets, &c.—The prices of produce appear to have improved somewhat under the stimulus of the recent victories and of the approach of spring. The following table is made up from the latest Chicago, Milwaukee and Madison Prices Current:

CHICAGO, FEB. 27.

Wheat,	75@80c.
Corn,	23½@24c
Rye,	40@42c.
Barley,	39@48c.
Timothy Seed,	$1,60@1,80.
Clover Seed,	$3,75
Dressed Hogs,	$3,50@3,80.
Live Hogs,	$2,80@3,10.

MILWAUKEE FEB. 28.

Wheat,	77@80c.
Sample lots for Milling,	81@82c.
Dressed Hogs,	3,60@3,80.

MADISON, FEB. 28.

Wheat,	66@70c.
Dressed Hogs,	$3,25@3,40
Beef, Dressed,	3,50@4,50

The Weather has been favorable to winter wheat, and the great quantity of snow which has lain upon the earth the winter through will have materially enriched the soil for better crops.

Legislative.—Little or nothing of importance has been done by the Legislature during the past month. Until recently but one session a day has been held, and not unfrequently both houses have adjourned over from Friday morning until Tuesday of the following week; in which cases but little has usually been done until Wednesday morning. A few members are always at their posts, faithful to duty.

The "Bank Bill," (authorizing the suspension of specie payment,) the "Interest Bill," the bill for the investment of the School Fund in State Bonds and several other important measures are still pending.

Military.—The Wisconsin regiments now in camp, have all been ordered to Cairo and St. Louis, but are delayed by the Paymaster. It is believed that the first week of this month will find the infantry regiments at the posts to which they have been ordered.

At the grand parade on the 22nd ult., the three regiments at Madison made a splendid appearance—the Sandinavian rather excelling. This regiment has been very thoroughly disciplined by the energetic and skillful Lieut. Colonel, K. K. Jones, and will prove itself—as we believe they all will—prompt and efficient in the field.

NATIONAL AFFAIRS.

Thank God, the day of stagnation is passed! The Grand Army of the West has been turned upon the traitorous foe, and lo! they are scattered like the withered leaves of autumn!

The old Flag lately fired upon at Charleston, trailed in the dust at Richmond, buried at Memphis, insulted all over the infernal South and borne in disgraceful flight at Manassas

has been purged of its foul stains, and to-day looks again all bright and glorious as the banners of the Republic move forward. The world wears a new aspect and it begins to appear that God is really ever ready to help those who first help themselves—as though treason would have its just deserts in less time than if it must wait until the day of Judgment.

Let us reckon our late victories: Roanoke Island captured by the gallant Burnside with 3000 prisoners and the death of O. Jennings Wise, Com. Lynch and a few more graceless scamps of the same ilk.

The fleet of Com. Lynch annihilated.

Elizabeth City, Edenton and sundry other small towns on the waters of the Albemarle, taken.

Possession of the Balt. and Ohio R. R. regained through the heroic effort of the gallant Gen. Lander. Savannah as good as taken, if not already in the hands of the Government.

Price driven out of Missouri, with heavy loss and no possibility of return.

Fort Henry stormed and taken by the intrepid Com. Foote. By the bold energetic Grant Fort Donelson captured after a brilliant test of Northern strength, skill, courage and heroism, with fifteen thousand prisoners, including two Generals, twenty thousand stand of arms and an immense quantity of military stores!

Bowling Green taken by the daring Mitchell.

Clarksville also taken. And Nashville once more bearing aloft from the dome of the Capitol of Tennessee the glorious old Stars and Stripes.

Glory enough for one brief twenty days.

What have we gained by these victories?

Gained a new avenue to the Capitol of the Nation; the Key to North Carolina; an inlet for free labor and free thought, an outlet for oppressed loyal men and slaves, and for Cotton, which the great soulless world esteems of more value than they all; gained the liberation of Kentucky, Missouri and Tennessee from the thrall of worse than fiends; gained confidence in the army of the Republic and imperishable honor!

Congressional.—The U. S. Senate has proved to the world that it still possesses virtue enough to purge itself of traitors. Bright, of Indiana, who, beyond all question was a secret aider and abettor of treason, has been sent, scourged and disgraced, back to an outraged and indignant constituency, and other traitorous Senators are on trial.

The Treasury bill, the "legal tender clause," included, has passed. These notes are to be receivable for all debts due to and from the United States, except duties on imports, which shall be paid in coin or demand notes heretofore authorized to be received, and by law receivable in payment of public dues, and interest upon bonds and notes, which shall be paid in coin. The notes are to be lawful money and legal tender for all purposes except as above indicated.

Depositors of notes of not less than $50 are to receive in exchange bonds bearing six per cent. interest, redeemable after five years and payable after twenty yenrs.

Five hundred millions of such bonds may be issued by the Secretary of the Treasury, and sold at market value for coin or Treasury notes.

Receipts for imports are to be set apart as a special fund for the payment, in coin, of interest.

Foreign.—England is still inclined to treat the claims of the government of the United States with some contempt, though the recent victories of our army must have tanght her that we of the North and of the old Union can fight when we make up our minds to do it.—Napoleon, in his recent address to the French Congress, declares his purpose to respect the blockade of the cotton ports, so long as we respect the rights of neutrals. He also shows that France is not in so bad a pecuniary condition after all—not nearly so bad as she has suffered before. The demands greater, perhaps, but the resources proportionately greater still.

Mexico is making a good resistance to the allied army, and is receiving no little help from the diseases which prey upon her foes. Gen. Scott has just been sent as Minister Extraordinary, to aid in adjusting our difficulties with that government.

EDITORIAL MISCELLANY.

☞ All communications, of whatever kind, intended ☜ ☞ for the EDITOR *should be addressed to him ex-* ☜ ☞ *clusively;* all *remittances of money and* all ☜ ☞ *business* letters, *to the Publishers.* The offices ☜ ☞ are separate and distinct, and attention to this ☜ ☞ request will save the Editor a great deal of time ☜ ☞ and trouble, while at the same time, it will di- ☜ ☞ minish the liability to mistakes.

Agricultural Capabilities of the Sucker State.—If all the claims of the agriculturists of Illinois be allowed, there is scarcely anything in the whole catalogue of the multitudinous products of the earth which may not be grown within the borders of that great and fertile State.

Not only fruits and grains of every description for the use of man and beast, but sugar for the sweetening of the whole world, cotton for the clothing of all the loyal citizens of all the loyal States—if not indeed of "the rest of mankind"—and then that immensely popular, almost indispensable but, just now, expensive article of commerce, coffee, are susceptible of economical culture there!

Says an exchange: "Besides the culture of sugar and cotton, the agriculturists of Illinois are turning ther attention to coffee, which is said to have been grown there successfully. George B. Hoffman, who resides ner Effingham, on the Illinois Central railroad, received a few seeds of coffee, from his son in Australia; these he planted, and the past season produced two bushels of ripe coffee, the quality of which is said to be excellent. He estimates the yield at thirty bushels per acre. Thus far the plant appears to be hardy, and promises to be productive. Several parties in Effingham county are preparing to enter on its culture. The plant comes into bearing the second year, and the third year it produces a pretty fair crop. With these facts before them, the State Agricultural Society has offered premiums for Illinois grown coffee."

All right—if it can only be done. We would detract nothing from the vast and varied agricultural capacity of the noble Sucker State; indeed we most sincerely and heartily rejoice in her growth and prosperity and in the cheering prospect of her future greatness. Still if we were called upon to advise our prairie neighbors, we would quietly say, Dont be too sanguine of the capabilities of your "semi-tropical climate." Possible and *economical* production are very different things.

What we very much Want—The experience of practical Farmers, Gardeners, Mechanics, Miners, and Housekeepers, for record in the FARMER. Come, friends, wake up and give us each at least one idea semi-occasionally, if not every month.

☞ Geo. W. Babcock, St. Paul, is our authorized agent for Minnesota.

Iowa Eminently Sound.—While the Legislature of Wisconsin is doing much to cripple the industry of the State, under the false impression that every dollar taken away from her agricultural and kindred associations, is so much clear gain to the Treasury, and to that extent enables the State to meet the unusually heavy drain upon its resources, the State of Iowa is wisely pursuing just the opposite policy—leaving all industrial agencies, upon whose productive capacity the country is really more dependent than ever, in the full possession of all the means hitherto enjoyed, and passing wholesome laws for the better encouragement of needed agricultural and manufacturing enterprise.

Two of the laws here referred to, are, it appears to us, especially worthy of our attention in this State:

The first is for the exemption from taxation all capital invested in certain branches of manufacture, and the second exempts all flocks of sheep over fifty in number.

This is legislation in the right direction—such legislation as will enable Iowa to easily outstrip us in the influx of population and capital, and in all the more essential elements of wealth and prosperity.

How long will our legislative Solons think it economy to fool away their time in the Buncomb discussion of abstract questions and impracticable theories of national government, while at the same time they are doing worse than nothing for the advancement of those great practical interests upon which our growth and progress as a State unquestionably and unmistakably depend?

Wisconsin Plants.—Our acknowledgements are due to John Townley, Esq., of Moundville, Wis., for a fine collection of Wisconsin plants—some of them very rare and not hitherto catalogued by our botanists in this State. The package was kindly forwarded, free of expense, some weeks ago and but for the press of business, which during the past few months has crowded everything out of mind not absolute and immediate in its demands, would have been gratefully acknowledged before.

We hope this example so generously set by friend Townley will be followed by others who may have it in their power to forward specimens of any kind that would give interest and value to the embryo cabinet of the Society.

Specimens of Wisconsin Timber.—We return our thanks to those gentlemen who have taken pains to collect at considerable expense specimens of timber, &c., for exhibition at the World's Fair. In the event of a failure on the part of the State to provide for an exhibition of Wisconsin productions—which failure now appears more than probable—the specimens received will, unless otherwise directed by the donors, become a part of the Society's collections.

Write for the Farmer, oh ye wise and generous but lazy friends of industrial improvement!—Remember the fate of the servant who "hid his talent in a napkin." "Let your light so shine," &c.!

Obituary.—We deeply regret the occasion to notice in this number, the mournful fate of our esteemed friend and faithful co-worker in the field of agriculture, the Hon. H. M. Billings, of Highland, Iowa Co., the painful circumstances of whose death are thus given in the Dodge County *Citizen* of the 8th ult.:

On the morning of the 6th inst., the Colonel left his residence with a two horse sleigh, intending to go to Avoca; upon his arrival at the village of Highland he found the road so obstructed that it would not be prudent to attempt the trip. He started to return home, and in crossing a "dish" or sharp pitch in the road at the foot of the hill east of Highland, in what is known as Simonsville, the inside trace of the off horse unloosed, when he got out of his sleigh, and in reaching over to recover the trace, the horse, a fractious animal, kicked, throwing him upon the double-trees; the team started at full run, carrying him upon the double-trees and kicking for nearly a mile and a half, when they were met by a gentleman and stopped. When the Colonel was picked up, life was extinct; he received a very deep cut in the forehead, and another directly behind the right ear; and the right side of his face and right hand were badly cut and bruised. That he was kicked while attempting to hitch the loosed trace is evident, for though alone, he was seen by a gentleman at some little distance to get out of his sleigh and go to the heels of the horse and reach over, and while attempting to hitch the trace he must have been kicked and fell upon the double-trees. His body was placed in the sleigh and conveyed home to his family, whom he had left but a few short hours before, happy and contented, now bowed down in sorrow and grief at their bereavement of a loving and affectionate husband, and a kind and indulgent father.

His funeral took place upon his farm in the afternoon of Sunday, the 9th inst. He was buried by the Masonic Fraternity, of which he was a highly honored, eminent and loved member. He leaves a widow and seven intelligent and interesting children to mourn his death.

Col. Billings was the first President of the State Agricultural Society, as at present organized, and has ever since been one its most faithful, active and efficient officers. Always ready to second any reasonable measure for the progress of industry, we had come to regard him as essential to the prosperity of the organization for the promotion of whose interests it is our business to labor, and therefore deeply feel his loss on this account, as well as because of his high social worth and great value as a citizen of the State. As a political leader of the Democratic School, he was zealous and resolute, yet ever just and fair, caring more for the success of the principles he endorsed than for personal advantage or temporary party success. At the last State election he was the candidate of his party for the office of Lieut. Governor, and sustained himself well in the contest.

It is not alone his large and amiable family who will mourn his loss; all who have ever known him will lament his sad fate.

Binding the Farmer.—In a few days we shall receive from New York a fine lot of muslin covers for the FARMER of 1861, after which we shall be prepared to furnish binding of superior quality for 40 cents a copy. The FARMER is worth almost as much for reference as for current use, and when handsomely bound from year to year, in the course of time will make an elegant agricultural Library of great value. Send in your loose numbers. If any should be wanting, we will furnish them, so far as we have the deficient numbers, without charge.

The Sugar-Beet Excitement.—Several years ago, when France re-organized her efforts in the direction of producing sugar from the beet, the experiment was tried in this country, on a small scale, but did not entirely succeed. The present high prices have again awakened interest on that subject, however, and vigorous efforts are being put forth in some of the States, to insure the making of experiments on a more extended scale. In Ohio a number of prominent gentlemen—among them Mr. Klippart, Sec. of the State Board of Agriculture—are actively interesting themselves in the matter, and considerable quantities of seed have been ordered from France, for planting, this season.

The Sorghum Crop of 1862 bids fair to exceed anything ever yet done in this direction. In Ohio, Illinois and perhaps some other States, Sorghum Conventions have been held, wherein the subjects of cultivation and manufacture have been discussed with the most encouraging results; the general conclusion being that it may be made one of the most profitable crops of the season.

The Horticultural Department is rapidly growing in interest. Numerous careful and skillful fruit-growers are doing themselves credit and the public great good by their valuable monthly contributions. Two or three valuable communications arrived too late for publication and are left over until next month. Will not the special friends, of other departments do as well?

CORRESPONDENCE.

Leached Ashes, &c.—I have been trying to get up a Club for the FARMER, but our neighbors seem to think, if I should judge by their actions, that our State papers can be published without subscribers; or they wish to live like heathen, in a State where there is no paper printed, for some of them are sending their money for less valuable papers East.

Please to inform me through your columns if leached ashes are good on a gravel and clay soil, with a subsoil of Clay, and if they are good, what crop would be best to follow. Would they not be good on a meadow. There is an ashery about half a mile from my farm, and for a small remuneration I can get all I can draw.

Respectfully Yours, EBENEZER RAYMOND.
AUBURN, Feb. 15th, 1862.

[Have not space now; will answer in next number.]

Aid and Comfort—The Wall Flower.—WIS. FARMER:—Enclosed you will find cash for the next year's subscription for your excellent Journal, with hearty wishes for your success. You will oblige me by giving directions for cultivating the Wall Flower. I have a plant that has grown well the past season, but does not show signs of blossoming. It resembles the Stock Gilla in form. E. HOLT. [Have not had much experience with this plant. It sometimes declines in health and vigor from want of fresh earth and re-potting. Will some of the Florists answer?]

Dogs and Mutton.—Please find enclosed two dollars to pay for one copy of the *Farmer* for the current year, and one copy New York *Tribune*, weekly, commencing with the next No.

Many of the wheat-growers in this region, are fond of dogs, and dislike mutton. They are also in debt, and *always ought to be*, for their hatred to the most profitable animal in the State. Had they the chance, they would vote to banish every sheep from the country. They don't see (because they wont,) that a million dollars annually, might be received, above the present receipts, for wool, with but very little trouble, and no expense beyond the value of manure, manufactured from the white grasses, now left to be seared up, and made valueless by the autumnal frosts, or the more prolific tame grass which should speedily take the place of wild; to which may be added, bean vines poorly threshed, corn fodder and straw, enough being wasted or burned to keep thousands of sheep.

Worthless dogs must be kept to prey upon the innocent sheep, and dishearten their owners. S. L. M., *Fulton, Wis.*

FRIEND HOYT:—I am very anxious to know how to make woodland pastures, where previous cultivation is impracticable or inconvenient. The more level land is a gravel deposit, and covered with burr oak groves; the hill-sides are yellowish sand, more or less mixed with mould, and bearing, generally, black oaks. What grasses will grow best, and how shall they be put in? An article from some one of experience in this latitude, will be very useful to me and doubtless of general interest. If any such article has been published, its re-publication would not be amiss.

I am getting my place ready for sheep-raising, as that branch of agriculture promises best here. I had hoped to be in Madison some months ago, but was prevented by affairs at home.

I wish you could see the fine lands of Goodhue, and other counties on the river. No lands in the State, are better, and considering the advantages of market, lumber, &c., none cheaper. This is due to this vicinity having been an Indian Reservation, to which no title was good until after the crash of '57, and nothing since to bring them up.

Yours, Truly, LEWIS H. GARRARD.

FRONTENAC, Goodhue Co., Minn.

[Will discuss this subject in next number. If any of our readers have had experience, would be glad to hear from them.]

Rabbits never so bad.—In a nursery I visited 200 miles South, they had either girdled completely or made unsaleable, I should say, one-fourth of several thousand fine saleable, 3 and 4 year apple trees! What can be done? The State Societies should do it—but if no other way, I will be one of not less than 20 to make up $1,000 for a cheap, sure mode of destroying them. F. R. PHOENIX, Bloomington, Ill. [Who will answer this question, and where are the other 19 men?]

Amber Wheat, &c.—SIR:—I see in New York market, there is a kind of wheat called the Amber Iowa, or Wis. Amber. Is it a spring wheat, and can good seed be had? Please enquire. I see it quoted higher than any other spring wheat. Also, please enquire at your seed store in Madison, if clover seed can be had, of the medium kind. I got some there last year. If it is not the medium kind, I don't want it, as there is plenty of the small kind here. Please inform me at your leisure, and oblige, WM. HUMPHREY, *Patch Grove.* [The Amber is a winter wheat, said by some to be identical with Rio Grande. Very little of it comes into this market. Don't know where it can be had. "Medium" clover seed can be had here after a while. Glad to hear enquiries for clover seed. A great deal of it should be sown this year.]

Aid and Comfort and Good Sense.—I enclose you two dollars to pay for the *Farmer* the present year and another year from next January.

I would send apologies for not paying before, as it is contrary to my custom; but you will care nothing for them, I suppose, and would express some hesitation that I have in paying for any more publications beforehand, as I have already paid for four different ones, which have come up minus, since war has commenced; but as farming is the back-bone of war as well as everything else, I shall expect the *Farmer* to be supported by the farmers of Wisconsin. Yours, Truly, THOMAS SEARS.

MR. J. W. HOYT—DEAR SIR:—Enclosed please find $2,00 for the *Farmer* of 1861 and 1862. I am well pleased with the 2 numbers of 1862. Have you arrangements for binding the *Farmer* of 1861, and the best way to send the same? I could get mine bound in this neighborhood, but the appearance don't suit me. Yours, Truly, JOHN F. GRANB—*Fancy Creek.* [See paragraph on this subject.]

Sugar Cane.—Do you know of any good sugar cane seed, that I can get a quantity of, to sell. We think of doing a good business in the line of raising and manufacturing cane, if we can obtain good seed—my faith is as strong as ever.—O. P. DOW, *Palmyra.* [We have written to several parties, and will again notice in next number.]

OUR BOOK TABLE.

MANUAL OF AGRICULTURE, for the School, the Farm and the Fireside. By GEO. B. EMERSON, Author of a "Report on the Trees and Shrubs of Mass.," and CHARLES L. FLINT, Author "Milch Cows and Dairy Farming, Grasses, Forage Plants," etc., etc. Published by Swan, Brewer & Tileston, Boston, Mass. Price, 75 cts.

Having spent a considerable time in the preparation of materials for a work of similar character to this, we have not felt willing to notice it until after a very careful examination. This we have at last found time to give, and it affords us great pleasure to accord to it our most hearty approval. The work covers a wide field, and while very concise is nevertheless pleasing and attractive in style.—Dullness and dryness are not essential to text-books on

science, although they are unhappily the chief characteristics of so many books of that class.

A book which might be successfully used by an intelligent instructor in our common schools, as an aid in teaching the familiar applications of science to the useful arts, has long been a felt need. This "Manual of Agriculture" is the result of the combined effort of two of the most competent men in the country to supply that desideratum and they have produced a work which should find a grateful welcome in every school and country home in the land.

OUR FARM OF 4 ACRES and the Money we made by it, with an Introduction by Peter P. Mead, Ed. Horticulturist. Saxton, Barker & Co.—Price 50 cts.

A pleasing and instructive little book, worth twice the money.

First Biennial Report of the Progress of the Geological Survey of Michigan. A. Winchel, State Geologist.

We are indebted to our esteemed friend, I. A. Lapham, Esq., of Milwaukee, for a copy of this Report, which embraces the years 1859—60. It contains matter of much interest, and gives evidence of zeal and industry on the part of its author.

Agricultural Reports of the Massachusetts Board of Agriculture for 1860.—Edited by C. L. Flint, Sec'y; 20 copies received.

This is one of the best of Mr. Flint's model Reports.—We have derived pleasure from the hasty glance given it and shall read it through and through—if we ever find time.

THE FOURTH VOLUME OF TRASACTIONS OF THE ILLINOIS STATE AGRICULTURAL SOCIETY is the best one, as it appears to us, hitherto published, and does honor to the Society and to the able Secretary of the Board, John P. Reynold's, Esq. We notice that 10,600 copies were printed, which shows that the Legislators and people of Illinois have an ambition commensurate with the area of their great and noble State. Thanks for the copies sent.

NOTICES OF NEW ADVERTISEMENTS.

Messrs. Ramsay & Campbell have a new advertisement in this number of their extensive and superior stock of hardware, agricultural implements, &c. They are proving themselves masters of their business, and as a consequence are securing an immense trade.

Purchasing in the best eastern markets with cash, they are able to sell at the lowest rates; and as they are constantly receiving supplies, their stock always embraces articles of the latest and most approved variety and style.

We heartily commend them to the farming public, feeling confident that they will give good satisfaction to their purchasers.

See notice of Evanston Fruit Farm. We are personally acquainted with Mr. Kidder, and believe him to be a skillful, enterprising cultivator and an honorable dealer.

Rev. D. Y. Kilgore advertises Evansville Seminary, of which he is Proprietor and Principal. Having visited this Institution and having intimately known the Principal for years, as a gentleman of ability and energy and as a faithful and popular teacher, we have no hesitation in commending Evansville Seminary to the attention and patronage of all who would prefer the education of their children in a well-ordered, *living* school. His assistants are among the ablest teachers in the State.

Messrs. Swan, Brewer & Tileston advertise the *Manual of Agriculture* of which a notice will be found in our Book Table. Read it and send for the book.

STATEMENT
OF THE
Madison Mutual Insurance Company,
FOR THE YEAR ENDING
JANUARY 1st, 1862.

Made to the Governor of the State of Wisconsin, as required by the provisions of chapter 303, of the General Laws of 1858.

Total amount of accumulations,.....		$216,865 76
ASSETS:		
Premium notes of policy holders	$180,124 63	
Cash on hand, and due from policy holders for cash premiums,.....	35,408 66	
Am't secured by mortgage and judgment,.....	332 47	
Office furniture and fixtures,...	1,000 00	$216,865 76
Whole number of policies issued,.....		14,357
Am't of outstanding risks thereon,.....		$10,320,789 00
Reported losses awaiting further proof,.....		3,709 80
Losses recently reported,.....		3,433 89
Whole number of policies issued in 1861...		5,778
Amount of outstanding risks thereon,.....		$5,315,173 00
Amount of premium notes thereon,.....		93,944 06
Amount of cash premiums thereon,.....		48,377 36
Total amount of losses reported during the year,.....		15,801 13
Total am't of losses paid during the year,		6,881 16
Amount settled by drafts and awaiting the call of the insured,.....		1,568 85
Amount of commissions paid to Agents,....		7,460 84
Am't paid for Advertising,.....	$1,625 20	
Amount paid for printing,.....	811 00	
Amount paid for postage,.....	366 22	
Amount paid for office rent,....	200 00	3,002 42
Expenses paid, including all compensation of officers and directors—stationery, extra clerk hire, fuel, lights, and all other incidental expenses,.....		6,069 56

STATE OF WISCONSIN, } ss.
DANE COUNTY,

We, the undersigned, being the President and a majority of the Directors of the "Madison Mutual Insurance Company," do solemnly swear, and each for himself saith, that the foregoing is a true and correct statement of the affairs of said company in the particulars therein named, as appears by the books of the company, according to the best of our knowledge and belief.

D. J. POWERS, President.
JOHN W. BOYD,
SAMUEL D. HASTINGS,
B. F. HOPKINS,
TIMOTHY BROWN,
ALBERT WOOD,
G. F. HASTINGS,
H. H. GILES,
SAM'L R. McCLELLAN,
G. R. MONTAGUE,
ORRIN GUERNSEY,
LUTHER BASFORD,
DAVID ATWOOD,
D. WORTHINGTON.

Subscribed and sworn before me this sixth day of January, A. D. 1862. V. W. ROTH, Notary Public, Dane County.

THE WISCONSIN FARMER.

J. W. HOYT, : : : : : : : : : : EDITOR.

VOL. XIV. MADISON, APRIL 1, 1862. No. 4.

Work for April.

"Now comes the tug of war!" The farmer who has been dozing in the corner during the long wintry weather of the past several months must wake up, throw away his pipe, and *wade in*.

Let us see,—there is so much to be done, that we hardly know where to begin.

THE CLEANING UP PROCESS certainly should come first. The work must be thorough.

The cellar will prove a source of discomfort and disease unless cleaned of all decaying substances, scraped, scrubbed and whitewashed. It will require a few hours to do it, but disease and death may be prevented thereby. And while you are about it, clean up the door yard also, making everything look neat and tidy, and saving mother the trouble and vexation of "mopping up" after you every day.

Now is the time, likewise, to give the stable, stock-pens, chicken house, &c., a general "going over." If you pretend to keep animals, take a little pains to insure their health and comfort. Don't be afraid of using the whitewash brush. Lime is cheap and a great purifier.

REPAIRS.—If during the winter fractious horses or unruly cattle have kicked off some of the barn boards or broken down fences, there will come no time during the season when they can better be put in repair than now; and besides, who wants to see things looking slopshod and *slattering* all summer long? Not we; we hope not you.

If a thrifty farmer, and sickness or something of that sort has not prevented, you have wisely spent the days of winter and good sledding in getting the materials for fences, &c., upon the ground just where wanted. Very well; so far so good. But don't stop there. The ground is not quite ready yet, (at least it looks hardly probable to-day—March 8th,) for plowing and seeding, and if it were, it is scarcely more important to raise crops than to protect them. Therefore we say again, look to your fences, and see that they are in good shape before it's too late.

SEEDING should be done as early as the ground can be put in good condition. This is a safe general rule. Seed *well*. There is nothing gained by slighting this important work. The quality of seed has been already discussed in March No., but it will not be amiss if we again say, Don't commit the folly of putting seed into the ground without *knowing that it will grow*. This fact may be determined with regard to some by careful occular inspection, simply; others should be put in a basin of moist earth and left in a warm place to test their ability to sprout, before venturing to plant.

CARE OF STOCK.—Your stock of all kinds are just entering upon that interesting and trying period, "*betwixt hay and grass*." Don't trust to Providence too far. He has ordained that good, wholesome food shall be a condition of health and life. A little grain, bran, meal or roots will come in play during this month and prove a good investment. See articles on "Currying Animals," "To Prevent Vermin," "Skim-milk Calves," and on "Care of Cows after Calving."

GARDEN.—Begin in good season. There is no need of waiting until late summer for lettuce, raddishes, cucumbers, peas, beans, &c. See Hints for April in Horticultural and Bee Departments.

Agricultural and Statistical Bureau.

The late report of Hon. Caleb B. Smith, Sec'y Interior, contains what we have long been anxious to see in a document emanating from that Department, to-wit: a recommendation backed by forcible logic, for the organization of an Agricultural and Statistical Bureau. American Agriculture has long enough been tucked away in a basement corner of the Patent Office, and we rejoice that the able Secretary now at the head of the Interior Department, has a just appreciation of the magnitude of this permanent material interest.

In a sense and to an extent which is true of no other nation this is an agricultural country. We may excel in the mechanic arts, but, after all, our great reliance must be upon Agriculture. It is certainly, therefore, the plainest dictate of common sense that the Government should especially foster this great branch of our manifold national industry.

The following extract from the report in question is full of wholesome truths which we hope will be duly considered by Congress and by the American People:

"EIGHTH CENSUS.—The returns of the eighth census are being condensed for publication, with all the expedition practicable in a work of such magnitude and varied comprehensive details.

"The report which the Superintendent of that work will be prepared to make during the present Congress, will confirm the general belief, that no previous period of our history has been distinguished by greater prosperity or evidences of more substantial progress in all the material interests affecting the welfare and happiness of a people.

"In this connexion I feel constrained to recommend the establishment of a Bureau of Agriculture and Statistics, the need whereof is not only realized by the heads of department, but is felt by every intelligent legislator.

"The maintenance of such a bureau, on a respectable footing, by a different arrangement of offices which at present exist on a basis too contracted for extensive usefulness, would be attended with no expense to the government additional to that incident to the present organization of the departments, while the advantages gained to the public service would be incalculable. One of the objects contemplated by Congress in the appropriations for the promotion of agriculture was the "collection of agricultural statistics." Correct reports from every portion of the country exhibiting the peculiarities of the soils and their adaptation to the various crops, with the character and extent of their annual productions, would constitute a fund of information of great practical value. The appropriations heretofore made by Congress have not been sufficient to accomplish this object, and at the same time provide for the distribution of seeds and the propagation of new varieties of plants to the extent which the public expectation appeared to demand.

"Annual reports made under the direction of such a bureau, setting forth the condition of our agriculture, manufactures, and commerce, with well digested statements relative to similar facts in foreign countries, which the present rapid intercommunication enables us to obtain often in advance of their publication abroad, would prove the most valuable repertories of interesting and important information, the absence of which often occasions incalculable loss to the material interests of the country. The vigilance of such a bureau would supply timely warning of the failure of crops abroad or at home, and lead to the judicious investment of capital and employment of labor in agriculture and manufactures.

"While we expend vast sums for experiments in gunnery—the promotion of science—in illustrating the physical features of unpeopled territory at home and regions beyond the seas, and publish costly volumes of undigested correspondence relating to foreign trade, it is a source of pain to every statesman and political economist to reflect that it is only once in ten years that the country is supplied with reliable returns respecting the value of our agriculture and manufactures, while we are altogether ignorant of the extent of our internal commerce, and possess no means of ascertaining its importance.

"All enlightened foreign governments and several of the States sustain statistical bureaus, while the United States, with a population second to no other in intelligence, and with productions and resources the most varied, have yet to institute an agency which would prove an invaluable guardian of our most material interests. The want of such a bureau has long been felt, and has been frequently brought to the notice of Congress, but at no period has the necessity been so universally recognized as at the present.

"Upon the agricultural and statistical bureau would naturally devolve the charge of the census, for which timely preparation would be made, and its administration conducted with improved accuracy and ease. In fact the execution of that work collects a mass of valuable details, and reveals innumerable and reliable sources of information of deep interest, heretofore lost to the country, which a permanent bureau would be able to develop to advantage.

"The extent to which the documents of that office have reached, and the frequent reference

made to them for public and private purposes, make it indispensable to maintain a permanent clerical force to have them in charge. Confident that such a bureau will assert its claim to public preservation, and by its utility prove the wisdom of the measure, I recommend its immediate formation."

Value and Uses of Leached Ashes.

We promised in the last number to give some account of the value of leached ashes and of their adaptation to certain soils — gravelly clay, with sub-soil of clay.

For crops which require a large percentage of potash and soda, such as beans, peas, potatoes, Indian corn, grapes, &c., the effects of unleached ashes are more marked and immediate. Still, leached ashes contain large proportions of the insoluble constituents which, though not so prompt and stimulating in their action, are, nevertheless just as really necessary to the growth of plants, while their influence is more permanent.

In all parts of the world where anything like a system of agriculture exists—where the farmer is not brim-full of the notion that his soils are inexhaustible—ashes of all kinds, particularly ashes of wood, even though deprived of a greater part of their alkalies by the process of leaching, are esteemed of great value, and carefully preserved.

The value will of course be determined somewhat by the kind of wood from which the ashes are derived.

But then the wood of any plant or vegetable will yield ashes capable of contributing to the growth of any of the crops grown by the farmer.

Clay lands are most benefitted, but very light sandy soils are largely improved by them—especially if organic manures, (muck, barnyard manures, &c.,) be also applied. Gravelly loams would undoubtedly derive advantage from their application. The quantity per acre will of course be determined by a variety of circumstances, such as character of soil, kind of crop, expense of application, &c. Fifty to a hundred bushels might be considered a liberal quantity.

The kind of crop which should immediately follow is not important, as the effects of leached ashes are quite permanent.

Upon grass lands they may be used with benefit as a top-dressing. Secretary Flint of the Massachusetts Board of Agaiculture, in his excellent work on "Grasses and Forage Plants," remarks as follows:

"Grasses are often more benefitted by ashes than other crops, since they require a greater amount of the salts which ashes contain. For all permanent mowing lands, especially on the lighter soils, ashes are among the cheapest of manures, where they can be had in sufficient quantities. In parts of Flanders and Belgium, countries in which the science of agriculture has been carried to a high perfection, the great loss of inorganic matters from the soil is constantly restored by ashes or bones. * * According to Liebig, with every one hundred and ten pounds of leached ashes of the common beech-tree, spread upon the soil, we furnish as much phosphate as five hundred and seven pounds of the richest manures could yield. Now phosphates are useful to all kinds of soil.

Those who have tried leached ashes have been fully satisfied of their superior quality as a fertilizer. Careful experiments, by practical, conservative men, show that land producing one ton to the acre has been so improved by this means as to yield three tons to the acre. Where thirty bushels were used on three-fourths of an acre, in one instance, the crop was increased more than three-fold. Nor are leached ashes subject to the objection which are raised by some against the use of lime. They do not apparently exhaust the soil. Their effect is felt for several years. Many farmers have found, by experience, that one bushel of unleached hard-wood ashes is nearly equal to two bushels of plaster, as a top-dressing for the dried grass lands. If this be true what has been said, would show that leached ashes are about equal to plaster in their effects on such lands."

Cotton and Sorghum.

The following extract from a circular from the Patent Office, shows that the Government intends encouraging the propagation of it in the Northern States, and an appropriation has been made by Congress for the purchase of seed for distribution. The introduction of the seed of Sorghum is also being made through the medium of the same department:

CIRCULAR.

UNITED STATES PATENT OFFICE,
AGRICULTURAL DIVISION,
WASHINGTON, January 15, 1862.

The cultivation of cotton in the milder portions of the Free States is beginning to attract general attention.

To prevent failures in its cultivation, it is proper to remark that it is a principle in vegetable physiology that tropical plants can never be acclimated North except by a repeated reproduction of *new varieties* from seed.

The attempt to grow "*Sea Island*" cotton, such as is now brought from Hilton Head, would prove a failure in any portion of the Free States. The only variety capable of successful cultivation in those sections now seeking its introduction is the "*green seed*" cotton, such as is now being raised extensively in Arkansas, Missouri, Tennessee, and portions of Kentucky, and which produces the "white fibre." Seed should be obtained from these localities. The modification of soil and climate will influence the size of the plant, the length and fineness of the fibre, and the product of the crop. No reasonable doubt is entertained of the success of the culture in all mild portions of the Middle States, and efforts are now making by this Division to procure the proper seed for distribution. * *

SORGHUM.—The results of the cultivation of sorgho the past year settle the question of its entire practical success. The value of its product is now counted by millions, and its cultivation is becoming a subject of absorbing interest.

One of the difficulties presenting itself is the want of pure seed. To meet this want this Division has ordered seed from France for distribution the ensuing spring. It must be borne in mind, however, that the same causes which have produced deterioration here, exist there, and well grounded apprehensions are entertained that the seed thus imported may not be free from suspicion.

Farmers interested should secure pure seed from among themselves when it is possible, as the season is so far advanced that direct importations from Africa or China would be impracticable. D. P. HOLLOWAY,

Commissioner of Patents.

How to Raise Potatoes.

A report in the Springfield (Mass) *Republican* of the doings of a Farmers' Club, recently held at a Chicopee farm house, includes the following on the subject of potato raising:

One of the party, a large grower of potatoes, and who has at present about 1,500 bushels in store, gave his experience, as follows:—He prefers corn ground that has been manured the year previous. Strong manure, he said, makes diseased potatoes. After plowing unmanured ground, he marks out the rows, four at a time. In these rows he drops single pieces of cut potatoes, eighteen inches apart. A medium sized potato is enough for four hills, or about six bushels of seed to the acre. Large seed potatoes give about one-fourth more product at harvest than small ones. Small potatoes have about as many eyes as large ones, but the sprouts from those eyes are not as large or vigorous. The potatoes are covered about two inches deep.

The potato vegetates slowly, and usually weeds start before the potatoes. When the potatoes have sprouted so as generally to show themselves above the ground, a hoeing machine is introduced, which covers the potatoes some two inches deeper and destroys the weeds like a plough. Subsequently the potatoes are hoed twice and receive no further care till digging. The common yield is about 200 bushels per acre. He digs with a hook, and from thirty to sixty bushels per day to a man. Davis' Seedlings are his favorites.

National Bureau of Agriculture.

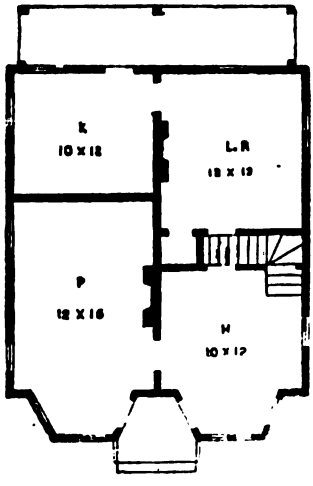
President Lincoln in his late message thus alludes to the necessity of a National Agricultural Bureau:

"Agriculture, confessedly the largest interest of the nation, has not a department nor a bureau, but a clerkship only assigned to it in the government. While it is fortunate that this great interest, is so independent in its nature as not to have demanded and extorted more from the government, I respectfully ask Congress to consider whether something more cannot be given voluntarily with general advantage. Annual reports exhibiting the condition of our agriculture, commerce, and manufactures would present a fund of information of great practical value to the country. While I make no suggestion as to details, I venture the opinion that an agricultural and statistical bureau might profitably be organized."

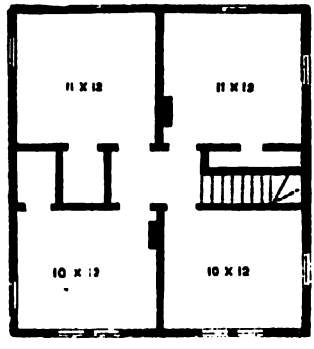
MAPLE SUGAR.—*Hunt's Merchants' Magazine* estimates the crop of maple sugar at 28,000 tons yearly, or 62,700,000 lbs. But a very much larger amount can be produced, and doubtless will be, thus relieving the country from foreign indebtedness, and keeping the balance of trade in our favor.

Another Neat and Cheap Village or Farm House.

In our last number, we furnished a design for a pleasant farm house that could be built for about $800. We now furnish one of an entirely different style, estimated to cost $1000 to $1200. It presents a very neat exterior and contains eight pleasant apartments.



According to the ground plan shown above, the front rooms are a parlor and a reception room or hall, the rear rooms a living room and kitchen. Should a different arrangement be preferred, the hall could easily be converted into either a sitting room or bed-room—the ordinary entrance in the latter case being directly into the "living" room. It would be well in either event to have a door connecting the living or family room and parlor. And should the room marked H be used as a family room, then the closet should be made under the stairway so as to admit of a door between rooms H and L.



The second story is divided up into four convenient sleeping apartments with closets. A door between the two front rooms would add to their convenience.

Beet Root Sugar.—Jno. H. Klippart writes to the *Ohio Farmer*, that Prof. F. A. Mot, of Columbus, has succeeded in the manufacture of sugar from the beet. From a computation based upon his experiment, six and a half tons of sugar can be produced per acre, or 6,000 lbs. of sugar and 600 gallons of syrup. Rating

the sugar at six cents per lb., and the syrup at forty cents per gallon, the product per acre is $600.

Prof. Mot has ordered from France sugar-beet root seed to plant ten acres next Spring, and is preparing machinery to manufacture it.

Other parties believe the beet root is destined to furnish the North with sugar, and sorghum with syrup.

Sorghum.

From the proceedings of the Executive Board of the Illinois State Agricultural Society, we make the following extracts:

STATEMENT OF G. J. MAXWELL, LEXINGTON, OHIO.

Sample of sugar, yield seven pounds of sugar per gallon of syrup, two hundred gallons of syrup to the acre; cane topped when hauled to the mill; canes cut in the middle; that from the butts boiled by itself in Cook's Evaporator. No chemicals—put in warm places and crystalized in forty-eight hours. That from the tops put in cellar for table use—but crystalized when set in a warm kitchen, and becomes a perfect mass of sugar. Suckered a part of cane—perceived no difference in the product; suckers as much good juice as the cane itself.

STATEMENT OF SAMUEL HOOKER.

Mr. Hooker of Schuyler county, sent a jug of syrup, which was in what might be called the "mush" state—probably one-half the quantity had granulated. It is claimed by Mr. Hooker to be from a cane unlike that generally planted, and from his present knowledge, much superior to either the common sorghum or imphee. He speaks of its habits as follows:

"This cane grows straight and tall, and on rich land very thick; has no suckers, each seed producing a single stalk, and does not readily mix with other seeds. The juice is clearer than that of the common sorghum, and harder to press out of the stalk. From experiment, I conclude this stalk contains nearly or quite twice the quantity of juice contained in common cane."

Of the sample on exhibition, he says: "I manufactured, I suppose, about thirty gallons of molasses—using a common box (six feet by two), bottomed with sheet iron. A little soda was added for cleansing. It was my first attempt at molasses-making. This sample was made by simply stirring and boiling a little longer than for molasses."

REPORT OF J. H. SMITH, OF ADAMS CO.

Probably more importance attaches to the report of this gentleman, than to that of any exhibitor present, from the fact that he has proved beyond a doubt sugar as well as syrup can be produced from Northern cane, without the use of chemicals. The sample present, was from a lot of about one ton, made by Mr. S., the past season, from the Imphee cane.—The sugar is of dark color, and not well drained, the process of draining consisting simply in placing the syrup in the "mush" state in a bag, pressing out the molasses in a common portable cider mill. He estimates that about seven-tenths of the syrup turns to sugar. He also states that he can make the sugar at five cents per pound, and syrup at twenty-five cents per gallon, and make more profit per acre than from corn. Mr. S. was kind enough to give us a detailed account of his mode of cultivation and manufacture, the same as presented before the body. We give it in full. He says:

The little experience which I have had for the last few years in the culture and manufacture of syrup and sugar from the Chinese and African sugar cane, has been fraught with much encouragement. The farming community in our district have generally expressed full satisfaction on the munificent returns for their labor. No less than 6,000 barrels of good syrup has been manufactured in Adams County this season. While our implements were of the rudest material, and unfit to make good experiments, yet our success has been beyond our expectations.

We have used the Cincinnati Crusher and Cook's Evaporator, pan No. 3, and a long pan in connection with this, of 2½ feet wide and 20 feet long, the bottom being of copper or galvanized iron; and these have produced the best results, making 250 and 375 gallons per day, with one cord of wood. We use the Evaporator till the juice is thoroughly clarified, and the white, gluey scum disappears, which is about 20 to 25° Beaume, then it passes gradually in the long pan reaching in, boiling down to about 35 to 37°, B. The gate is then opened into a large, flat cooler, that will hold the labor of the day, and from the African Cane you will find a complete granulation the next morning. *The specimens of syrup and sugar now presented for your examination have been made by the process mentioned, and without the aid of any chemicals, and only by the aid of skimmer and fire.*

Sulphite of lime will extract all the acid from the sugar—if a solution of it is mixed with the juice while in the process of boiling. The specimen of syrup is from the Chinese Cane, and as already mentioned, without the use of anything except the skimmer and fire.

Our climate has proved fully adapted to the Chinese and African Canes, and our soil the very element for its culture. It is a mistake that the richer the soil the larger the production of this article, (which eventually must become of the greatest benefit to this State,) for the cane grows as well in poorer soil, and the best on dry, sandy fields. On the rich ground the cane grows rank, but is spongy and full of woody fibres, and the yield is by far less than on the weaker lands. The Chinese Cane is much more desirable for syrup when raised on sandy soil, and is much more desirable for syrup than any of the Imphee kinds.

Of the different kinds of African Cane, we found the following best adapted to our soil:

Neeara-na, Boomwaa-na, and Oom-se-a-na. These three kinds will ripen in ninety days, and our yield from them has been twelve hundred pounds of sugar and one hundred to one hundred and twenty-five gallons of syrup to the acre. Had I been permitted to present as a specimen some of the sugar, after having gone through a refining process—such a one as used by Belcher in St. Louis—I have the full conviction, that from the specimen presented, sugar like Belcher's best crushed sugar would have been the result.

Dry seasons are a great advantage to its growth, and it can be grown even on a flat meadow, and it improves the land.

It should be planted as early as possible, the seed being soaked for about twelve hours in a solution of chloride of lime, (about one ounce to a pint of seed.) It should not be covered very deep, as it is then liable to rot.

When ready to manufacture, strip your leaf, cut your cane, and press your cane all on the same day if possible, as it presents the souring or fermenting of the juice, and which latter destroys the flavor of the syrup. The plant has a natural acid which is easily removed, and has been by most people when tasted in the syrup, called scorched; but the fermented plants, or the juice expressed from the latter, cannot be freed from the acid, or at leat our experiments have failed.

Beyond doubt our sugar has as good a body and as firm a crystalization as any of the sugars from our Southern countries, and our sugar, when refined, will compare with the best now in market.

The sugar I have presented for your examination has been strained through common cloth, and was rather a forced process, and I have no doubt, with improved machinery, I shall be able to present at the next Fair all that can be desired of this plant. All of which I respectfully submit.—J. H. Smith, *in Rural Register.*

Seed Corn—How to Produce Early Germination.

If you did not, as you have so often been advised to do, save your seed corn by selecting the best ears in the field, don't loose another day but go at one to your corn crib and pick out the handsomest ears that you can find, and store them up in some dry loft, no matter if it is a very smoky one, and as hot as July sun, it won't hurt the vitality of the seed.

It is of the highest importance that your seed should germinate immediately after you plant it. That is of more importance than early planting. Germination can undoubtedly be hastened by artificial means. Dr. Chamberlin of Bureau Co., Ill., has made some important discoveries in this direction. The *Republican* says:

"Last year Dr. Chamberlin of this place made some practical experiments, and demonstrated that nearly half the time may be saved in germinating the seed by the use of chloride of lime.

Not satisfied with the success of last year, he is again experimenting. In his office he has four boxes; in the first is corn planted without soaking, and the seed not germinated; in the second the seed was soaked in warm water which has just commenced to germinate, in the third is a seed soaked in a solution of lime, and green blades are just peeping from the ground; in the fourth is a seed soaked in a solution of chloride of lime and copperas, in equal parts, and the blades are now nearly three inches above the ground. All the seeds were planted at the same time, in the same quality of soil, and taken from the same ear. The boxes have all had an equal share of heat and light, neither allowed the advantage over the other.

This experiment should attract the attention of farmers, We conclude from four to six weeks may be saved by the use of chloride of lime and copperas, which is a matter of no ordinary moment when we reflect that a delay of germination of the seed of two weeks frequently places the crop within reach of the frost in the fall. Another fact of some importance may also be mentioned. The copperas used in soaking will prevent the birds, squirrels, worms, etc., from eating the seed.

Dr. Chamberlin assures us that one pound of chloride of lime and one pound of copperas in water, will soak enough seed for twenty acres. The cost will be but twenty-five cents.—Every farmer could afford to make the experiment, even if he should fail to derive any benefit from it."—*N. Y. Tribune.*

Dwarf Broom Corn.

[Some time since a new variety of Broom Corn attracted considerable attention and was noticed extensively by the agricultural press. We had seen none of the corn, until this winter, when a specimen was brought to the Agricultural Rooms by Hon. M. K. Young, of the Senate. It gives promise of being a good thing, and as Mr. Young has generously proposed to give us a quantity of the seed for gratuitous distribution, we shall hope to have it thoroughly tested the coming season. The following communication, written at our request, will give the reader an idea of the particulars wherein it differs from the Broom Corn now in cultivation:]

Ed. Farmer:—Pursuant to your request, I submit such considerations relative to the

"Dwarf Broom Corn," presented to you, as two years' cultivation thereof, has suggested to my mind in its favor. Without being enabled, from experience, to say that it is more productive than the common variety, I would give it as my best impression, that it cannot be a great deal less, and might be more, in consequence of its growth being much shorter, and therefore permitting closer planting. The brush of this variety is longer than the common variety, and the fiber smaller and tougher; but the main thing in its favor is that it needs no "breaking down." The top leaf runs its sheath midway up the brush, supporting it in such a manner as to keep the brush entirely straight, and when harvesting comes on, all the operator has to do is to take hold of the top leaf in one hand and the bush in the other and pull in opposite directions, which in severing the stalk at the top joint leaves just about enough thereof for broom-making. My impression, from what experience I have had, is that parties interested in growing broom corn would not regret it if they were to give the variety a trial. Yours, &c., M. K. Young.

Madison, March 7th, 1862.

Sorghum Convention in Ohio.

At a convention of those interested in the growing and manufacture of Imphee or Sorghum, held at Columbus, Ohio, not long since, it was,

Resolved, That the article of Imphee is better adapted to the manufacture of sugar than Sorghum.

Mr. Mers remarked upon soil best adapted to cane. "He found that the black, sandy limestone soil produced the whitest, best tasted, and largest quantity of syrup."

As to the best stage of growth for manufacturing, Mr. Jacobs believed the cane is in the best season of maturity when the seed is a little colored; when the seed is hard and dry the saccharine matter forms wood and fibre; when the seed is half ripe it makes the best syrup; and when cut too green it forms a syrup of a light orange color. The leaves should be stripped off when still green, by using a stick like a sword. Use bisulphite of lime, using from one to two teaspoonfuls to the gallon of juice, to prevent fermentation if the weather is warm, which destroys the acid and makes a better and smoother article of molasses. His experience proved that the less juice put into the pan at any one time, and the quicker it was evaporated the better the syrup made.

Mr. Hopkins had tried the culture of the cane for two years, and had made about 1,800 gallons of syrup the past season. He found a clay soil the best; that muck was not so good as clay ground. Cane grown on muck made the most juice, but less syrup. His experience was, that the cane that stood the longest after cutting made the best molasses.

Mr. Franklin said he had tried topping when in blossom—not too early—and found it increased the product about one-seventh.

A preamble and series of resolutions were passed by the convention, the last of which we copy, and would commend its recommendations to the consideration of *our* State Legislature. From what has already been done in Iowa, we are forced to believe that this business will, ere long, become one of her great leading staples. Experience thus far would seem to establish the fact—that Iowa and Illinois are better adapted to the growth of the Sorghum and Imphee, than any other of the Northern or Western States. Little or nothing, so far as we can learn, is being done in the business east of Ohio; nor do we hear much from Indiana, Michigan, or Wisconsin. The New England States still depend upon the maple for their domestic sugar and syrup.

Resolved, That in the opinion of this convention, it is desirable to so amend the legislation of this State, that hereafter the assessors be required to report the number of acres cultivated, in these canes, and the number of pounds of sugar, and of gallons of syrup made.

[*Iowa Homestead.*

This is already done in Wisconsin.

STOCK REGISTER.

Vermin on Cattle, Colts and Pigs.

We see a great many remedies for these loathsome tormentors of domestic animals—vermin.

One recommends soft grease and Scotch snuff mixed in the proportion of a pound of grease to an ounce of snuff, and rubbed in upon the skin. Another would sift powdered charcoal into the hair. A third has used ashes from the blacksmith's forge in the same way. And others drive away lice from swine by pouring buttermilk along their backs freely, and ticks from sheep by sprinkling a spoonful of Scotch snuff into the wool from head to tail.

All these remedies may be of service, but after all the great remedy, is good feed, with proper care. For lousy calves, a few "nubbins" a day during the early spring months are worth a pound of snuff and a keg of grease. Indeed well-fed, thrifty, growing stock, are rarely much troubled in this way.

Skim-Milk Calves.

The following from the Editor of the *Massachusetts Ploughman* so well expresses our own views on the subject of raising calves, that we copy it entire. Calves, like all other domestic animals—except pehaps, dogs—pay for good keeping. Better restrict and pinch them in the quality and quantity of their food at any other time than while young:—

We find in some of our exchange papers many schemes to rear calves without giving them anything of value to eat. Skim milk is a fancy article with some breeders, and they give precise directions how to administer the dose.

Some direct to get the calf into a corner, where he can't hang back. Let a stout man straddle his neck—let a boy hold a dish of skim milk so high that the calf may drink, if he will. But he is now two or three days old and knows better than to taste of such stuff, except "by compulsion."

But this beverage is made better by adding a little oat meal, cobmeal, or buckwheat meal. Something must be added to the skim milk to make it go—and then it is no go. A calf would stand three days over such fodder, and eat straw or poor hay rather than to touch it.—What is to be done? The owner, or his aid, puts his finger into the calf's mouth, and tries to make it believe that it is sucking milk from the teat of its mother.

The calf never believes it, but as its nose is in the dish and the finger in its mouth, it must mive its jaws in order to spit out the finger, and in doing this it is obliged to swallow some of the porridge.

The calf is often treated in this way for weeks and weeks, till it is reduced so low that it will eat anything rather than starve. He turns to the hay mow and there finds a little consolation in a cud, and it begins to think that it can live after all.

But now its master fancies that new grass must be good for the youngling, and he ties him in the border of his garden where the early clover has made its appearance. The calf has now learned to drink out of a pail—but it prefers pure water to skim milk and its mixtures. It drinks but little, for the fresh grass is its food and drink. In six weeks the calf looks as old as a yearling, though not a tenth part as large as a yearling should be. The owner rears but one or two in a year, therefore he cannot let them loose till after haying is over. Then they are permitted to range through the cornfield and elsewhere to pick up enough to keep along through the winter.

If Farmers would count the cost of rearing calves by hand they would be likely to try better methods. One quart of milk drawn by the calf from its mother, is worth more to sustain it than two quarts of new milk drawn by hand,—for milk drawn by the calf is not gulped down in a heap, to be disposed of in the stomach after much effort and pain.

The Farmer who rears a number of calves may let them suck for a number of weeks, taking half the milk, at less cost than to hold them and attempt to turn milk down their throats. When calves are allowed half the milk they will soon learn to eat good hay. They eat hay better than any early grass in the garden, and it is better to wean them on hay than on grass. It is less trouble, and it is eaten by the young calf.

When a Farmer raises a number of calves, the oldest will teach the others how to eat hay and drink water. Let the hay be of first quality, and let a tub of water stand on one side of the pen. The oldest calf will soon learn to drink water without putting a finger in his mouth, and his companions will soon find out what he is about at the tub.

Calves ought to learn how to eat meal, or meal and oats, and they will learn this in one day's time if you will place some on one of the sills at the side of the pen. If they are backward in learning this, put a little fresh earth beside the meal and they will soon mix the whole together and eat it. By the way, calves should always have free access to loam or earth of some kind. They eat it more readily than meal, and it is good for them. Nothing is so good to prevent the complaint called Scours, or to cure it, as loam from the field.

After a calf has been nursed by its mother for three months, it may be taken off to another barn and fed on the best of hay till you have fall feed for it. Then it may run at large and eat grass. Or, it may be kept in a cool barn through the summer season.

Through the winter, calves should have the best of hay, but they should not be closely confined as some writers advise. They winter best under open sheds where they can have air and light.

The Importance of Currying Animals.

It is well known that every hair, whether long or short, is covered with numerous little barbs, like the barbs of fish-hooks, and therefore when a number of hairs are brought in contact with each other, and moved back and forth, they will work in among each other, and often form a mass so tangled—like the mane of a colt, which our ancestors have often taught us to believe were the stirrups of witches, which were accustomed to ride them in the dark nights—that it is difficult to disentangle them. The only means that cattle have of scratching themselves many times, is to apply their tongues; and when the hair comes off, as it often does, by the handful, more or less will adhere to their tongues, and many times find its way into their stomachs; and the re-

ciprocating motions of the stomachs of animals which chew the cud would soon form a bunch of hair into a pellet; and, as more hair was taken into the stomach from day to day, it would be very sure to all collect in one mass. Now, when an animal begins to shed its coat of hair there always appears to be more or less irritation of the skin, and if the card or curry-comb is not used pretty freely the tongue must be applied; and if an animal is well curried every day, when it is shedding its coat, it will be far less liable to collect hair in the stomach. A ball of hair—being indigestible—in the stomach would be very likely to injure its energies so as to produce disease, and eventually premature death.—*Rural Register*..

Low Diet for Cows after Calving.

Not "thenceforth and forever"—don't make any such mistake—but immediately and for a few days. The labor of parturition is a serious task upon the nervous system of the animal, and unless carefully treated and moderately fed there is a liability to what are known as milk fever and caking of the bag.

A sheltered place, if stormy weather, a drink of water and a little dry hay are all sufficient for the first day; indeed good hay and water are sufficient for several days—until all appearances of inflammation are gone.

Graining Sheep for Spring Market.

A correspondent of the *Ohio Farmer* has been experimenting in this direction, and contrasts the usual mode of performing the duty with the one he has adopted. We give his remarks as follows:

THE USUAL MODE.—I have long contended that there is much lost every winter, among farmers, by feeding corn to sheep in the manner generally adopted in this section. Their sheep are allowed to run in flocks of from one to six hundred, without shelter; corn is dragged out by the shock, and strewed on the ground or snow, as the case may be; and the sheep are allowed to eat all they can consume. My reasons for objecting to this mode of graining sheep are as follows:—First, a portion of the corn is shelled while the sheep are biting it from the cob, which is trodden under foot and lost. Second, the heaviest sheep monopolize the field, and keep the poorer ones back. Third, a portion of the stalks are trodden into the snow or mud, and lost, which is the best of fodder, and much better for milk cows than for sheep. Fourth, not half the profit is derived from feeding sheep all the grain they can hold, that there is from a less and regular quantity.

A BETTER MODE.—I do not know that I am competent to give the best method of graining, and taking care of sheep during winter; but I will give a mode which, if practiced, will be much more profitable than the above: Divide your sheep into flocks of three grades—the heaviest in one flock, the middle in the second, and the poorest in the third; and let them not exceed one hundred to the flock; prepare comfortable sheds, which may be made of slabs, put upon pole-frames, inclosing three sides, and the east side down to within two and a half feet from the ground. If the sheds are not built upon high and rolling ground, sawdust or tan-bark should be put in them. Prepare movable troughs, ten or twelve feet long, elevated one foot above the ground, to grain the sheep in. Begin to feed shelled corn as soon as the fall feed begins to fail, but with small quantities, and gradually increase to half a bushel twice a day, to each hundred sheep. Feed fine bright hay in racks, and in such quantities as they will eat up clean. See that your sheep are in their sheds during cold, wet storms, and that they have a plenty of good water to drink every day.

With this mode of treatment, I can assure you that your sheep will come through in much better condition than by the other mode, and that the grain and fodder saved will more than pay the extra expense. The sheds will stand many years, and answer as store-houses for the racks and troughs during summer.

CURE FOR SCRATCHES.—ED. VALLEY FARMER. Sometime last year, I noticed in the *Valley Farmer*, a cure for Scratches in horses (the use of lime) which the writer said he had never known to fail.

Permit me to say that I *have seen* lime fail in different instances, and also permit me to recommend a cure which I have *never known* to fail, and which is much easier used than the lime: First, wash the parts affected with soap suds. Then apply a mixture consisting of gunpowder, spts. turpentine and hog's lard, in as nearly equal portions as they will mix well together. Apply twice a day, and unless in very severe cases two days will affect a cure. —****

WARTS ON CATTLE.—A correspondent of the *Genesee Farmer* gives the following remedy for warts on cattle: Slake a piece of lime the size of a hen's egg, add four table-spoonfuls of soft soap, stir the same until well mixed. Apply the same to the warts. They will disappear in a few days, and the skin become smooth.

VERMIN ON CALVES.—If your calves are troubled with vermin, give them a table spoonful of sulphur every other morning, for a week.

☞ Take extra care in the Spring season, of your working horses. They will pay you back with compound interest.

THE POULTERER.

Best Laying Fowls Classified.

The following question has been repeatedly put to us, personally as well as by letter:—"What breed or variety of fowls would you recommend keeping for a supply of eggs?" In reply we would name

1. *White-face Black Spanish* fowls as laying the greatest number of pounds of eggs. The Spanish hens are notorious for abundant layers of very large-sized eggs, weighing from two and a half to three ounces each. They require warm housing and abundance of good clean water, &c.

2. The *Black Poland*, with a white top-knot. The Polish fowls are prolific of rather large-sized eggs, and are slow to sit, in fact, rare incubators. Hens of this variety have been known to lay from two hundred to two hundred and fifty eggs in a year. Chickens rather delicate and difficult to rear.

3. The *Hamburg Fowls*. All the Hamburg fowls are distinguished as great layers of middling-sized eggs, but rich in quality, and like all great laying fowls, poor incubators; indeed, mostly everlasting layers; they are great favorites of those who reqnire an abundance of eggs, rather than frequent broods of chickens.

4. The *Crested Hamburgs*, like the foregoing, are great layers of rich, good-flavored, medium-sized eggs. Non-sitters—never knew one that wanted to sit.

5. The *Game Fowls* are next in order as good layers of rather small-sized, delicious eggs, excellent mothers and rearers of chickens, good for the table. Hardy and great foragers. Are preferred by some to all other breeds.

6. The *Bolton Greys* are esteemed prolific layers, of medium-sized eggs of good quality; poor sitters, indeed, mostly what are called "every-day" layers, but less invariably so than some other breeds.

7. The *Dominique*. This well-known fowl, taken "all in all," is generally considered one of the very best we have, being pronounced good layers, good sitters, good mothers, and eggs and flesh of first quality.

8. The *Dorkings* are moderate layers of large and well-flavored eggs; sit steady, and are excellent mothers, rather delicate in constitution, chickens not easy to rear. They are to be ranked among the largest of fowls, and are esteemed the best in quality of flesh.

9. *Brahmas and Cochins*. These fowls are more noted for early and abundant layers.—Eggs of good quality, averaging about two ounces each—rather small in proportihn to the size of the breed—good mothers, chickens strong, grow rapidly with good feeding, fit for the table at four months old, not after, until they arrive at maturity. As has often been said, they are *early* and *excellent* layers, and arrive at maturity earlier than any other large breed. By the term "maturity" is meant the age at which a pullet will commence laying, and thus perpetuate its race.

10. The *Guinea fowl* is prolific of eggs, small but very nutritious; shells hard, and on that account can be transported any distance with safety. The young Guinea fowl is delicate eating, the flesh little inferior to our partridge, and is in season when chickens and Prairie hens are scarce—in March.

Good Layers.—We conceive it a good hen that will lay 150 eggs the first year, 130 the second, and 100 the third; after which she should "go to pot."

To Make Hens Lay in Winter.—There is another inquiry which we may as well answer at the present time—"How shall we manage with our hens in order to have them continue to lay in winter, the season when eggs are scarce and sell at the highest price?" The most practical mode that occurs to us would be to confine the earliest pullets after they are two or three months old, feed them well, and keep them until the first of October, when they should be allowed full liberty. A week or ten days afterwards they should be confined in a warm, dry room, where the vicissitudes of the weather and storms will not reach them.—C. N. Bement, *in Country Gentleman*.

THE BEE KEEPER.

For the Wisconsin Farmer.

Random Thoughts upon the Bee.—No. 5.

DESCRIPTION OF THE DRONES.

The wings of the drone are shorter in proportion to his body than the males, or working bees; this occasions that humming sound which distinguishes them in their flight. Nature has regulated the number of drones in each hive with a direct proportion to the number of working bees, from 4 to 8 and 1200; and the fecundity of the queen according to the number of cells. The drone has no sting, and gathers no food; he, therefore, neither works nor fights; but his whole utility in the hive consists in being an instrument of fecundating the eggs, when deposited in the cells, or otherwise, as may be. (Apiarians differ upon this point.)

The antennæ of the drones possess eleven articulations, and the other bees have fifteen. Their eyes cover all the upper part of the head, and the other bees have one oval eye upon each side of their head. Their teeth are smaller, and their proboscos shorther than the

common bee's; and thus nature has prepared them for useful and inoffensive animals in the hive. Whenever you discover that a hive becomes deficient in drones, (which sometimes happens,) you may replenish such hive by catching a few from some other hive, as they pass and repass, generally about mid-day; confine them until evening, and you may then introduce them to a general acceptance. Where a want of drones is not sensibly felt, the new intruders are sometimes murdered by a general assault. For safety, two or three may be introduced, and their reception will decide what is best. When the season of fecundation and gathering are over, the working bees assemble, and commence a general assault upon the drones; drag them out of the hives, and destroy the whole, by a general slaughter. Thus the whole system of nature is finished for the season, in the community of the bees.

Next month I shall give an account of the working bees. W. H. MORRISON.

Care of Bees in April.

The following directions are from "Langstroth on the Honey-Bee"—an interesting and most excellent work:

APRIL.—Bees will ordinarily begin to gather much pollen in this month, and sometimes considerable honey. As brood is now very rapidly maturing, there is a largely increased demand for honey, and great care should be taken to prevent the bees from suffering for want of food. If the supplies are at all deficient, breeding will be checked, even if much of the brood does not perish, or the whole colony die of starvation. If the weather is propitious, feeding to promote a more rapid increase of young may now be commenced. Feeble colonies must now be reinforced and should the weather continue cold for several days at a time, the bees ought to be supplied with water in their hives. In April, if not before, the larvæ of the bee-moth will begin to make their appearance, and should be carefully destroyed.

☞ The vertical position of royal cells does not appear to be an indispensable requisite for the perfect development of queens; because queens have been reared in cells lying horizontally on the bottom board of a hive. The essential requisite seems to be a constant and abundant supply of royal jelly.

THE HORTICULTURIST.

A. G. HANFORD, : : CORRESPONDING EDITOR

Apples Unsuited for Wisconsin.

Wisconsin is very many thousands of dollars poorer to-day by reason of the injudicious selection of varieties for her early orchards.

The Baldwin and Roxbury Russet, so popular in New York and New England, prove tender and of but little value throughout the North-West.

Those famous apples, the Spitzenburg, Greening and Fall Pippin, may succeed pretty well, when planted on the elevated dry white oak ridges. These, though hardly to be regarded as *profitable*, did so well with me at Woodside, and are withal, so excellent, that I could not easily dispense with them; but through the State generally, they brought only disappointment to the planter.

The early orchards of Wisconsin, as far as obtained from New York, were made up principally of *these tender sorts*. Eastern nurserymen still grow them in much greater numbers than other varieties, and when unrestricted in the selection, would very naturally send out a large proportion of these.

Only last spring an instance came to our knowledge where an order was sent to Rochester for fifty apple trees to be "of the *best and hardiest varieties*." Of those sent *twenty-five were Baldwins*. Nurserymen are not alone at fault. Persons from the East wishing to plant orchards in the West, naturally think of the sorts renowned in their old homes for vigorous growth, productiveness and excellence of fruit.

A large proportion of the many orders we are receiving from Wisconsin, include more or less of these tender varieties.

We would save our friends from a lesson of experience which it will take them years to learn, and wish they could realize at *once* that they do not choose wisely.

The simple circumstance of an apple being of Northern origin, does not render it suited to the North-West any more than a Southern apple should be *unsuited*; for it is a fact worthy

of note, that many of our best apples for Wisconsin are of Southern origin.

The above named apples are of Northern origin, but their habits of *late* growth unfit them for the peculiarities of the climate of the North-West. A. G. HANFORD.

COLUMBUS, Ohio.

Wilson's Albany Strawberry.

MR. EDITOR:—Having lived without strawberries in my garden some twenty years, I now propose to make amends for my sin the best I can, by planting a large bed of the best and giving them especially good care. Have formed a high opinion of the Wilson's Albany from the few I have seen and eaten. Are they hardy and prolific?

Yours, &c., J. L.

Milwaukee Co., Wis., March 8.

The Wilson's Albany is at present, and justly, we are inclined to think, taking the lead, in this State, of all the strawberries. It *is* hardy and very prolific. It has large size, moreover, and is one of the handsomest berries in the world. The above cut (published possibly in a former volume) is a fair representation of the size, form and yield of this popular berry. Doesn't it look splendid in cluster? Most magnificent and luscious. Would it might stimulate every reader of the FARMER who has hitherto been living without this most luscious fruit, to make a beginning this year. Twenty years without a bed of strawberries! Why it's positively barbarian. But as our friend has repented and turned from the error of his ways, it will become our Christtan duty to forgive him. Are there any more sinners of this class who ought to confess?

BUCKWHEAT AND BARK LICE.—"I have no bark lice in my orchard," said a farmer to me, "because I have got rid of them."

How did you get rid of them?

"My trees were very lousy. An old Hoosier came along three years ago, discovered the lice, and told me to sow buckwheat on the ground, let it grow, lie on the ground and decay there—let it cover the ground as a mulch.—Have done so, and the lice have disappeared."

The orchard was in grass before, and the plowing and thorough culture which the buckwheat seeding gave it, together with the enriching nature of the mulch, may have been the direct cause. *Culture*, I believe, will cure orchards of this pest, in most cases. And ashes applied about the base of lousy trees are found to render the tree uncomfortable for the lice.—*Rural New Yorker.*

TO PREVENT BUGS IN PEAS.—E. Horton, Esq., of McFarland, says that planting from the 8th to 12th of June will prevent bugs in peas; the reason given is that the period will then have passed within which the pea-weevil lays its eggs. There may be something in this remedy, but it will, of course not insure peas for other than winter use.

HOW TO TELL SEEDLINGS THAT WILL PRODUCE DOUBLE FLOWERS.—The Journal of the Paris Horticultural Society states that an experienced Italian cultivator of florists' flowers, Signor Rigomonti, has discovered how to distinguish between single and double pinks in the seedling state. *Those having, as usual, but two leaves, will be single, while those having three leaves will produce double flowers.* He thinks the test infallible.

Mistakes of Tree-Planters.

BY DR. JOHN A. KENNICOTT.

[From a lecture before the Illinois State Horticultural Society, December 1, 1860.]

In the mode of planting there are bad mistakes. Few prepare their ground properly, and most of you hurry the operation, for fear of losing your trees. All wrong. The first thing you should do, on receiving trees—either spring or fall—is to heel them in, nicely, in moist mellow soil—unless frozen—and even then you must heel in, suddenly, and in bulk, if not well "packed." You are mistaken in believing that freezing the roots will kill a tree, if thawed properly—and you are oftener mistaken in supposing trees *dried in the package* must be dead. We occasionally have trees months on the way, and quite dry when received. But they are not always dead. Bury them, root and branch, for a week or two, where air, heat and moisture can act upon them gradually, and then cut back severely, plant and shade them, and they may do pretty well, for all the drying. It is a very bad practice, for all that, to let the roots of trees get dry; and a worse one to let them freeze, while *naked*, as some of you do, in moving them without packing.

But to the operation of planting. Some of you *do* prepare your soil, by deep plowing; but I fear most of you do not plow deep enough. All of you dig "holes"—some of them deep enough for fence posts, and not much larger than old fashioned "post-holes." Part of you put manure in the bottom—a damnable practice—others don't, and are right there. Most of you crowd the roots into these "holes," hap-hazard, and sink them *deep* enough, not to need "staking," and then shovel in the earth —with or without water—and "*tread down*" firmly, and the work is done—and the tree often "*done for*." I have just heard of a thousand or so, planted in this manner, by a man who pretended to know how, and trodden down so as to turn the ends of the roots upwards! and leave a nice dish about the stem of every tree "to catch the rain!!" I am told that some of them *are* alive, but they ought not to live.

Never dig "holes"—never dig deeper in one place than another—and never deeper where the tree stands than twenty feet from it. I would have every root I *should* get, and have them all fresh and good—pare their bruises, and then carefully imbed them in fine earth, spreading and separating them, and planting just enough deeper than the tree grew in the nursery, to allow for the settling of the soil. I would dip the roots in a rich puddle, before planting—and before "heeling in," too—and take my time for the work. In very loose soil I would press down, gently over the *outer ends* of the roots—not next the stem—and if necessary stake them in the spring—and certainly mound up in autumn. It is a great mistake to suppose, that, in planting them, the roots of trees must be drenched with cold water; and after watering are worse yet. More are killed by too liberal floodings, than the want of water. Abundant moisture, so essential to abundant vegetation, is the greatest curse of the tree-planter and fruit-grower; where *superabundant*, and long retained about the roots of his trees and plants. And underdrainage, or surface outlets, his only safety; and the latter is but a temporary palliation, and one of untold wastefulness.

PRUNING.

Nearly our whole system of pruning is a mistake—a barbarism. Cutting back, or "shortening in," is often necessary, in shaping a tree, and keeping it in good shape, and in restoring something like a reasonable balance between top and roots, in cases of great destruction of the latter, in digging them up. The removal of interfering branches may be called for, when they cannot be drawn apart and preserved—and dead wood, and sometimes thick unfruitful spray, may, well enough, fall under the saw or the knife. But, as usually practiced, better never prune at all.

MULCHING.

Mulch is almost always a good thing, if not carried to excess; and it is indispensible, in connection with late spring planting. But some of us overdo the thing. Just mulch enough, after planting, to prevent rapid evaporation from the soil, and sudden changes of temperature, and it is of great service; while too much of it is dangerous, excluding sun and air, and, perhaps, other good influences—preventing early maturity, by encouraging late growth—harboring vermin, and all that. Fall mulching is another thing, especially where your object is to retain the heat of the earth, as long as practicable.

CULTIVATION.

Many planters expect a crop of fruit, without any particular cultivation; and yet they would laugh at the idea of a corn or potato crop, under like circumstances. Be assured of one fact, I pray you: All our best fruits need more liberal culture than corn, especially while young. Better not plant at all, unless determined to cultivate. And just about as well cut down your young fruit trees, as "seed down" the orchard, as some of you do, and better cut it down than sow the small grains—buckwheat, possibly, excepted—among your trees. Some one—perhaps Downing—has said, that "two crops of rye" would ruin any orchard. I think three crops of any other small unhoed cereal about as fatal. It is great mistake to put *any* but hoed crops in an orchard; and, of those, corn, sorghum, and other tall plants, are objectionable, on account of shade, late in summer, until the trees get high enough

to overtop it. Where the soil is very deep and rich, and the trees large, perhaps red clover may be sown, as a check to wood growth.

Many of you plant too deep, and use a spade when a fork would do better, among the roots of growing trees. A corn plow, or "cultivator," aided by fork and hoe, are the implements to use in the orchard and fruit garden.

MANURE.

Who ever knew corn or meadow land too highly manured! I never did. Who has seen rhubarb or currant bushes too liberally supplied! I should like to know. But manure for such gross feeders may be all right, and often necessary; while, with every fruit *tree*, great caution, in its use, or its entire abandonment, is the safe course. As a rule, you give young orchards too much, and your old bearing ones too little manure. And in neither case do you discriminate as you should, or give or withhold manure for a specific reason. In a large proportion of our virgin soil, the young tree, if well cultivated, is likely to grow fast enough; and too fast, for safety, if a tender sort. Here, fat manures will do much more hurt than good—so far as the tree or plant is concerned. But, by and by, the crops taken from between the trees, and occasional large yields of fruit will begin to tell on the trees, and then vegetable and animal manures may come in, to keep up a healthy growth, and help sustain large crops of fruit. And mineral matters may be still more useful; for you can no longer *plow* deep, to bring them from below. The roots are in the way of the plow. And here I note another mistake. You pile the manure around and near the bodies of your trees, when the roots, to feed on it, are no longer there! If your tree is twenty feet high, the best feeding roots may be twenty feet from the tree! perhaps interlocking with roots from neighboring trees. Place your manure there; and, in "plowing it under," don't plow up the roots of your trees. Barnyard manure is not, as some suppose, always the best sort for bearing trees. Leached ashes, powdered or dissolved bones, marl, or air-slaked lime, *may be much more useful;* and these should be given, whenever their constituents are deficient in the soil—either with or without yard manure, or compost—according to the WANTS OF YOUR SOIL.

On the Sowing of Flower Seeds.

[From the Ag. Department of the U. S. Patent Office.]

In order to be successful in raising flowers from seed, it will be necessary to bear in mind that the smaller the seed the less deeply should it be covered with earth. Some seeds are so small that they require only to be sprinkled over the ground and gently pressed into the soil, and should the weather prove very dry, a thin layer of damp moss ought to be placed over them till they germinate, when care must be taken to have it removed. There are few seeds that require such extreme attention.

Small seeds, as Petunia, Portulaca. &c., sow about $\frac{1}{8}$ of an inch in depth; those of larger size, as Mignonette, Sweet Alyssum, &c., about $\frac{1}{4}$ of an inch in depth; still larger, as Balsam, Morning Glory, &c., $\frac{3}{4}$ of an inch in depth; and seeds of the largest size, as Lupine, Nasturtium, &c., fully 1 inch in depth. They must be covered with finely pulverized soil, or leaf-mould, slightly pressed down, and should be kept moderately moist by shading or slight sprinklings of water, until they make their appearance. When about one inch in height the plants must be thinned out from one to two inches apart, to prevent crowding. Tall varieties should be neatly staked to prevent injury from wind or rain.

The time for sowing is regulated by latitude —April and early in May are the months generally selected about New York and Philadelphia, and about Charleston and Savannah some six weeks earlier.

Practical Observations on Grape Growing.

BY J. C. PLUMB.

[A Paper read before the Madison Hortticultural Society, March 18th.]

Of all the small fruits, the grape is most unsuited with wet feet, or an inactive cold soil.

The natural habitat of the choice fruit-producing vine, is the rocky hill-side, with just enough soil intermixed, to filter out and retain the rich mineral elements, continually furnished by the perfect æration and decomposition. At the same time it is true that the grape loves to luxuriate in deep mould, if underlaid by a self-draining stratum; as is often found on the rich river banks of the middle and western states, where are an abundance of mammoth vines, with diminutive worthless fruit. It is therefore evident that to secure success in grape growing, we should combine the alluvial with the mineral, in such proportions and place, as to give vigor, health, and productivness to the vine, and excellence and beauty to the fruit.

Location.—The first important consideration of which is, THOROUGH DRAINAGE.

The second is, exemption from early and late frosts, and cold, damp air generally.

The grape requires an even temperature, and above all our common fruits, is sensitive to extremes of heat and cold.

A very large and even amount of heat is

desirable, but in our latitude is practicable only under glass—but we design to treat only of out-door culture—therefore to secure these desirable conditions before mentioned, we would, when possible, plant upon, or near the *crown of the highest hills*, in gravelly soils; or if the soil be clay, clay marl, or calcarious, we would deeply trench the whole vineyard, throwing in stone, brush, straw, or some other loose material, to gradually decompose, affording a good underdrainage, and a constant source of circulation, both from above and below. When trenching the whole vineyard is impracticable, or only a few vines are to be planted,—as in the case of trellis-culture in the garden,—then adopt a system of deep spading, or plowing, then ridging.

In field culture successive plowing—as we have often recommended in orchard planting—sufficient to raise a ridge for each row of vines, two or three feet above the bottom of the dead furrow will answer; in garden culture, this can be performed with the spade, or when the soil is poor, or very stiff, by carting in good surface soil, with an admixture of gravel or sand, to render it porous, elevating the bank or border two feet or more, enough for the entire sustenance of the vine, without expecting or compelling its feeders to go into cold, inactive soil for pasture.

In soils underlaid with gravel, it is not positively necessary to elevate the vine-row or border, if the gravel can be reached at the depth of two or three feet. There is great folly in the old mode of digging a grave, and depositing, deep down, all manner of "dead things," filling up with half rotted manure and soil, on which to set the vine. It is even worse than useless; it usually proves the grave of the planter's hopes and efforts.

Thorough drainage secures complete aeration of the soil; such soils are never cold, and inactive; seldom suffer from dryness, or wet, and even when done on a small scale, it is productive of very decided lessening of the extremes of temperature, both in frosty nights and sultry days.

An excellent situation for the grape is the warm side of a brick or stone building, especially if the basement or cellar wall runs deep down, affording drainage; and the usual embankment and rubbish from the cellar and wall, form a good combination of soil.

The west side is the surest in our climate, being less subject to extremes, and less frosty; the change is not so rapid on those frosty mornings followed by bright sunshine. A southern aspect will bring forward vine and fruit earliest, and to greater perfection, but will require some careful watching and covering with mats, &c., to secure from dews and sunshine, when frost is expected.

On this subject of aspect, the same remarks will apply to field culture. A free circulation of air is essential to success.

The grape is most particular in its choice of location, yet fortunately, it adapts itself in the different varieties, to almost all kinds of soil; and no one need be deterred from planting, who has the ordinary resources at hand; for the level land can be made a hillock relatively; the soil full of stagnant water can be drained; the stiff clay can be made friable and porous by trench exposure to the action of frost and air, and when thus served, generally contains the desired elements in good proportion. The warm sand and gravel soils only require the yearly application of good composted manures to the surface to render them superier for the grape.

On planting, little need be said; but to urge the previous preparation of the soil as before mentioned, giving a place for each root and fiber as nearly as possible, covering lightly with soil, but heavily with mulch of straw, leaves, saw-dust, or well rotted manure. A compost heap prepared a year beforehand, is the most economical manure pile the planter can invent, as it *absorbs all the vegetable rubbish of the season*, is ever ready, both for manure and mulch, always safe, the "philosopher's stone" of the gardener. An annual top dressing of this compost, or even coarse manure, should be applied at the time of annual pruning in the fall, as winter mulch and protection; to be forked in in the spring. Special manures are not necessary, unless it be to renovate old

vineyards, that have by neglect, exhausted the elements of growth; and even then, severe cutting back of the vine, removing the soil around the roots, and replacing with virgin soil, followed by the compost top-dressing, will be found an excellent mode.

PRUNING.—The proper time for all heavy pruning of all plants and trees, is during the dormant season. The vine, especially, will not bear pruning during the first flow of sap in the spring. *Autumn* or *early winter* is the best time. Early spring pruning will not be injurious, if followed by several days of cold, freezing weather. It can also be safely done when the vine is in the leaf, the objection being the loss of wood for that season.

Vines, when out of the soil, can be pruned at any time. All light pruning of the vine can be done by pinching during summer.

[Concluded in next number.]

Hardiness of Fruit Trees.

The time for tree planting is rapidly approaching. Thousands of orders for fruit trees are to be filled within this month, thousands of dollars are to be paid for them; years of time in the aggregate are to be devoted to setting out the 500,000 or more trees in Wisconsin this spring. Doubtless a majority of this vast amount will be tolerably well planted.

It would seem from observations, in connection with above thoughts, that the common sentiment generally among the good people of Wisconsin is, "only give me some *hardy trees*, and I will invest a V or an X as a trial, and if I succeed with these in four or five years hence, I will put me out an orchard." Will it not be safe to consider on whom the responsibility of this "trial scheme" depends for success? It is a very easy matter to cipher out where the fault is if the scheme *fails*, allowing the past history of Wisconsin as a precedent. The climate or the nurserymen were the grand cause of all the disasters!—Well we are willing to allow that experience is an impressive teacher, that extreme cases are properly exceptions, and that nurserymen had a hand in inducing the extended and countless lists of varieties to be planted, regardless of the absolute qualities necessary to orchard culture. Allow we all made a mistake on sorts, and that the Siberian winter of '55 and '56 injured fruit trees generally throughout the entire United States.

Does our mistake end with the cold of winter? I think not. I think that our inexperience in the true theory of Horticulture was never more fully *demonstrated* than in the course that has been pursued by almost all tree-growers. It is according to the "books" I believe, that a tree, in more ways than one, possesses many of the characteristics of an animal without detailing these functions. It seems to me it would be a peculiarly strange philosophy that would teach the idea of *absolute neglect* of a horse, an ox, or one of the human kind and to refuse even Homeopathic doses of medicine and food so *necessary in all countries* to vegetable as well as animal life, *in order to cure a sick patient.* Was that the way to cure the diseased condition of tender, weakly growing varieties of fruit trees? The present appearance of neglected *grass grown* orchards fully demonstrates the contrary. Abundant cases are known to me where a regular system of culture, according to sound common sense principles has been followed out systematically and regularly from year to year, when complete success has crowned high expectations. Will not a careful observation convince any one that "hardy fruit trees" are not made so altogether by the nurseryman. The intelligent tree cultivator can likewise do much towards testing varieties. It would be hardly supposed a tree that could not be successfully grown in a nursery with the care and shelter it there has, could be a good kind for orchard planting. Subject as the majority of trees are to the winds, the rabbits, the sheep, the hogs, the cattle, and, not by any means the last, to the raking whiffletrees and drag of the husbandman.

Hence, the varieties we plant are to be considered; the way they are planted is another consideration, and cultivation and care crown the transaction.

Allow me to say the idea *accidentally* advanc-

ed by some of the experienced and able writers of the present day in adjoining and Eastern States, that Wisconsin is not the place to grow hardy and healthy fruit trees for successful orchard planting, shows a higher Horticultural *development* than your humble servant has attained.

I am free to admit, I think a fruit tree three or four years old, found growing vigorous and strong in a Wisconsin nursery, has as good a chance for being useful as one brought from 36°, 38° or even 40° of latitude. After settling all these queries, let us not again shift from our own shoulders the responsibility of helping make hardy and productive fruit trees. That obstacles must be met and overcome is not doubted. In no portion of the world known to the writer, can the delicious pear, the lucious plum, or the invigorating apple, in its highest excellence, be enjoyed without ceaseless care and attention.

Yours, H. A. CONGAR.

WHITEWATER, March 6th, 1862.

The Way to Have a Good Orchard.

The first thing to be considered, is the location and soil. The location should be the highest ground upon the premises, and as a matter of course, the soil would be most likely to be the poorest, that is, it would contain the least organic matter; but in regard to richness of the material essential for the healthy growth of the trees, it would most likely be the richest. Another reason for selecting the highest ground, is on account of its being less liable to frosts.

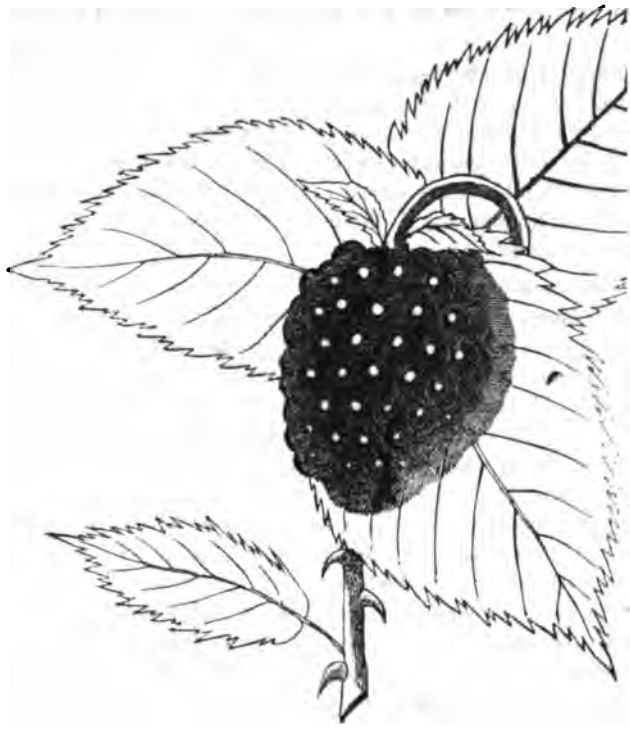
One of the greatest causes of unhardiness in fruit trees, is a too rapid growth while young, causing the wood to be porous and spongy, and in the young shoots, an insufficient hardiness. If we should take a young calf in the spring, and feed it all the summer with the richest milk, oil-cake, and corn meal, and then when winter set in, let it go unfed, and without protection; we would not think it at all strange if we found it dead in the spring.

Next in importance is the manner of raising the trees. The location and soil for the nursery should be like that for the orchard, and for the same reasons. The tap root of a tree should *never be cut.* The shortening of the tap root is the *greatest* cause of unhardiness in trees. Nature furnished it for the purpose of going down into the sub-soil, where it would find perpetual moisture, away from drouth and frost, and where it would find those substances that are needful for the healthful growth of the tree, and which are not furnished by the surface soil. The cutting off the tap root, causes the tree to throw out an undue proportion of lateral or side roots, which being near the surface, are exposed to drouth and frost, and take up too great a portion of organic or vegetable substances, causing the tree to grow too rapidly.

The next thing to be considered is the proper age and size of trees for transplanting. The tree should not be more than four years old from the seed, nor more than four feet high. If it is older, or larger, it cannot well be moved without too much injuring the roots. The distance apart the trees should be set, should not be less than thirty feet, and would better be forty. When a tree is forty or fifty years old, if it has not been dwarfed and stunted and crowded, its branches and its roots will each cover an area thirty or forty feet in diameter. Should we confine a large ox to the space, and allowance of feed, needful for a yearling steer, we would not expect it to thrive or be able to perform much labor.

When setting out trees, *never* dig the holes much larger than is necessary to admit the roots in their natural position, and *never* put any thing about the roots of the tree, in the hole, *except the soil which came out.* Do not, upon *any consideration,* allow a tree to form a "head" below *four and a half* feet, better a foot higher. Do not *fail to plant corn* in the orchard the season of setting it, and *never* sow wheat, oats, barley or timothy, in an orchard. Never allow the branches of a tree to "fork;" cut of *small limbs any time of the year;* large limbs only in *March.*

PRACTICAL EXPERIENCE.



The Lawton Blackberry Again.

Being duly impressed with the importance of *true* and safe counsel in all practical matters we endeavor to give the readers of the FARMER from time to time the results of careful observation and experience.

We have never thought of setting ourself up for a "fruit god," nor do we expect all will agree with our ideas on the subjects of culture, shelter, protection—the quality and value of various sorts of fruit and other horticultural questions.

Our opinion, generally given in the form of facts and statements we can ask no more for, than that they be received, first as veritable—next as worth considering, and the reliability of our advice tested. We trust none will ever find in that "hereafter" (we suppose that means when the time for gathering the fruit comes) that they have been led far astray. Our own time and the pages of the FARMER are too valuable to be occupied in reviewing criticisms. The critics and their critiques must, like our own sayings, be received according to their seeming merit. The reader must make his own deductions, draw his own conclusions, and act according as circumstances and choice may dictate.

The subject of small fruit culture is one of interest to the North-West. These home comforts it is the privilege of every farmer and the owner of every village lot in Wisconsin to enjoy *if they will*—home-grown, gathered fresh for every meal during the months through which the season may be easily prolonged.

Without perverting our remarks, no one could discover the slightest intent to disparage the old standby—the strawberry, gooseberry and currant. There was no thought of comparison. Our brief article was intended to convey the idea, that with winter protection, the Lawton Blackberry could be added to the family supply, (other proper culture, we took

it for granted, would be given as with any fruit).

We have surely used our influence to encourage the abundant growing of all the above in their best varieties and in the best manner.—We would *add*, not *take from*, and we would not that even one such table luxury should be stricken from the list by prejudice or discouragement of any unsuccessful grower.

We do not "mark well our doings," because we imagine ourselves on a pinacle with the "gods," looked up to as a model of infallible correctness, but because it is only by carefulness, truthfulness and impartiality that we can hope to secure the end for which we write and advise. We meant exactly what we said—all with little trouble may add the Blackberry to the family supply of small fruits; not because Mr. Merritt of Battle Creek, Mich., on his gravelly sandy loam raised 100 bushels on a little less than an acre, (we said sixty bushels; Mr. Merritt *sold* sixty bushels in Chicago; his crop was estimated at over 100 bushels,) or Col. Crocker, on the strong clayey soil of Milwaukee grew—I cannot exactly state at what rate per acre, certainly twice the above yield, but because we have yet to learn of the first solitary instance where the Lawton has not proved and justified all our assertions, where the right care is bestowed; and as an *indispensible* requisite to that care in Wisconsin, laying down and covering the canes must not be omitted.

Though we know of many instances of very satisfactory success with this treatment, not *one* to the contrary has yet come to our knowledge, notwitstanding the ipse dixit of one assuming the power to "to vote it up" or "vote it down again" at pleasure.

In a garden only a few rods from that of Col. Crocker, the Lawton and Dorchester Blackberries have grown side by side for six or eight years without yielding in all that time as many quarts of fruit. Why? Simply because they are treated as too many treat their currants, raspberries and strawberries, *neglect* them, let them care for themselves. Mr. Merritt manures his ground and keeps it loose and free from weeds; mulches in summer with cornstalks; prunes the canes and keeps down the suckers; in the Fall he *lays them all down and covers with earth and litter*. Col. Crocker does the same, and so must *every one* who would succeed with this fruit, and I may add, with most of the fine *raspberries* in the North-West.

But our critic has been East and there seeing the Lawton in perfection "voted" it was in the right "soil and climate"—he has been at Waukegan and found it equally successful—"voted" there, again, was the right "soil and climate;" he might have added he found it in a garden *sheltered* (as we would have every fruit garden in the West) by evergreens and other trees, and he might have informed us that those very Lawton Blackberries also enjoyed a covering of straw and litter at approach of winter! He has been a few miles back of Waukegan and found the Lawton considered a humbug—"voted" it there out of its proper "soil and climate"—thereat he draws an imaginary line which we may call "the Blackberry belt"—along the lake border. Had he further continued his investigations instead of being so eager to "vote down" that which he had once "voted up" (not being in the Blackberry belt how came he to vote it up?) he would have found about the same distance West of Racine at Dr. Jas. Ozanne's, the Lawton again in perfection, and in *prairie soil*, and would have to draw another line and give another "vote."

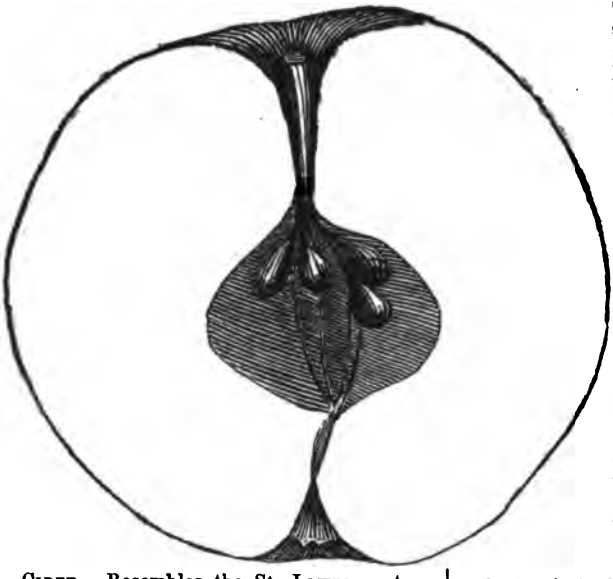
Dr. Ozanne is a well known enthusiastic and successful amateur. What is his experience in growing the Lawton 7 or 8 years? For several years he did not protect in winter, his canes bore only a little inferior fruit—now they are carefully covered, and the yield last season was three quarts per hill, or at the rate of about one hundred and fifty bushels per acre.

This discussion has really given the Lawton a prominence, more than we expected in our first simple remarks. It may serve to guide some discouraged ones to ultimate success, at

least teach them that what they undertake, if worth doing at all, is worth doing well.

A. G. HANFORD.

COLUMBUS, Ohio, March 12, '62.



CIDER.—Resembles the St. Lawrence tree, but more vigorous, great bearer, very hardy and productive; fruit, large, oval, medium sized, red striped; stem slender, in a very narrow, deep cavity; calyx, small, closed, slight basin, core medium; seeds many, small; flesh, white, tender, brisk, sub-acid; excellent cooking and eating. September to January. It promises to become one of the few completely successful in the rich soils of the West. Has been cultivated by the writer for the last seventeen years; supposed to be some old variety by some, but has not yet been identified. We introduce it as a new Seedling, giving it temporarily the above name. J. C. P.

Low Headed Trees.

William Bacon, of Mass., furnishes an able article for the *Horticulturist* on "Low Trees versus High ones." He is much in favor of the former. They are less exposed to severe winds, have less wood, and can elaborate more sap for the fruit, and are less affected by diseases, insects, moss, etc. He says:

"The best specimen of an apple-tree we ever saw made its head so near the ground that a person can without difficulty step into the lower branches, and these branches spread so low that the fruit can be gathered without difficulty by a person standing on the ground. They are long branches, and the top of the tree forms a symmetrical hemisphere. Neither the axe nor the saw has been accessory to forming that tree-head. The hand and the pruning-knife directed the first starting of these branches, and here they stopped, unless two combatant branches so interfered with each other's rights that one of them must be removed. This tree-top is so dense and so wide, that the hot midsummer sun can not send his fiery rays to scorch the unprotected part of the tree. They fall upon its leafy head, and the warm atmosphere is diffused along the trunk and among the branches. No insects have ever disturbed the tree, unless it were some straggling worm that so far forgot the rules of propriety and honor as to commence its web among its branches. And what is far better, it has never failed of a crop since it commenced bearing."

The editor of the *Horticulturist* remarks that low-headed trees also come into bearing earlier.

The Farmer, Setting out Fruit-Trees, Mulching, &c., &c.

EDITOR WIS. FARMER:—Enclosed you will find $1 00 for the WIS. FARMER for one year. Though the times are hard, I am not willing to dispense with so valuable a paper as yours, I find in it much valuable information in the many departments that interest the farmer. In the matter of loss and gain I think the farmer is much the gainer by the knowledge he may acquire by a candid perusal and thorough practice of the teachings of the FARMER. I have derived much information from it myself. So send it along, it is our own paper adapted to our peculiar wants in this State and none other will answer our purpose so well.—Allow me in writing, to mention one thing learned from experience, that I have never seen in any of the agricultural papers, and that is in relation to setting out young fruit trees.

When I set out my first orchard, being inexperienced, I was advised to mulch them as the spring was dry. I did so, and left it to remain through the summer. The event was, as the manure became rotten, the white grub became so numerous that they ate the bark off around the roots and killed many of the trees. On inquiry, I found that others had suffered in the same way, without knowing the cause, but became convinced, after a close search, that the cause was as above stated. I think trees that are mulched should be mulched with unrotted straw, which as soon as it begins to ferment, should be taken away from them so the grub cannot have a chance to work. I keep my orchard tilled and well manured, and do my pruning in the summer. I take pains to keep my trees free from worms, and have the most thrifty and best bearing trees, according to age, of any in my neighborhood. I have a poplar and locust wind-breaker on the West and South, which I think is indispensible on the prairie. I am satisfied that if we observe this rule—that is make a good wind breaker on East, West and South—get the hardy kinds of fruit, and when one tree is lost, replace it with another, and take good care to keep the trees clean from its enemies—every farmer can have plenty of good fruit, even on the prairies. R. M.

La Prairie, Feb. 14, 1862.

That Blackberry Talk.

What is in it, that friend O. S. W. should raise three exclamations(!!!) and corresponding interrogatories? Is it because sixty bushels per acre, or twelve quarts per square rod, is a remarkable crop even for the wild berry, or in fact any other fruit?

Is it because that at some points on the lake shore, it has succeeded finely, and that reasoning from analogy A. G. H. argues that "with very little trouble all might add this delicious variety to their fruits?"

Or is it, that after having himself voted it down, "our mutual friend" should have the temerity to slightly commend it, and advise how it can be saved, to contribute to the luxury of the dessert.

"Now Mr. Editor, we are somewhat" sanguine in most "branches of fruit-growing," and it grieves us to see such a communication as this on the Lawton; "it does more hurt than good," especially in this early period of its introduction, and when so few careful experiments have been made to demonstrate the conditions of success which it requires. To say "our soil and climate are not the thing," is presuming too much against its success, when it is well known that the wild blackberry is completely successful in the timbered regions and groves of the interior, remote from large bodies of water.

Strawberry culture has been attempted the last fifty years, but it is only quite recently, and since the sexual fertilization theory has been understood, that complete success has crowned the effort, and the strawberry become a berry for the million.

Again, the wild blackberry when cultivated in the rich garden soil and left without winter protection, is as tender as the Lawton and fails to fruit.

It blooms and sets its fruit at a time when hot, dry weather often prevails, and probably requires moisture in the soil and atmosphere beyond that of open field culture; and tho' a lake side atmosphere may be very desirable, its place will be supplied by some simple system of culture, mulching and shade, which will adapt it to the rich prairies of the West.

If the nurserymen is looked upon as a "fruit god," then by all the Divine attributes he should not condemn one of his deliciously *good* children to the regions of "humbugs," but teach the million how to adapt it to their wants. The spirit of the age demands no crab progression, and no "*retreat*," no loping off the varieties of small fruits, especially this one, which nature in the wild variety, supplies so universally in the Northern States. J. C. P.

☞ We earnestly hope that the war and the hard times will not deter the farmers of Wisconsin from doing a good business this spring in the way of setting out a good lot of fruit trees, black and raspberry roots, currant cuttings, strawberry plants, &c.

Progressive Horticulture.

"*Forward, march!* Right about face, *retreat!*"

FRIEND HOYT:—Eminently suggestive of the above caption, are some of the remarks of your contributors to the Horticultural pages of last No., and as one standing aside, a silent, but interested reader, we trust your indulgence in a few remarks on them.

We are glad to see the spirit of criticism awakening, and hope it will continue to "speak;" for in the onward march of our loved profession, we wish to pursue only the right path.

Particularly would we commend the remarks of A. G. H. on the destruction caused by *spring pruning* for the purpose of "raising the tops;" but the conclusion of the sentence, "lowering them," is, we think, one step on the *retreat.*

Trimming up, during the first flow of sap, is a bad practice, but in our long experience, we have never seen present or permanent injury come from the ordinary *cutting back*, at the time of planting, and the sooner this cutting back is done, (after it leaves the nursery row,) the better.

We are so confident of the necessity of this practice, that we strenuously recommend it to all tree planters, especially if they are so unfortunate as to procure the "high heads," which A. G. H. inadvertently recommends.

The practice of leaving the whole top on the tree at the time of planting, is one great source of failure to the amateur, even with the best of roots.

We repeat: *Shortening in at the time of planting is one of the first demands of the tree.*

(Reasons for which we will be happy to give when space will permit.) Evidence, the practice of all successful nurserymen and propagators, in all the various planting and transplanting of all deciduous stock.

Besides the first gain in "saving the life of the tree," we can, with "imagination unimpaired," easily conceive the great advantage the low headed tree has, especially if so low that a slight earthing up in autumn entirely covers the trunk, and hence the winter's sun, wind and frost are harmless, and in summer the trunk and ground about it is perpetually mulched by the shade of the low top.

In these two vital points of progressive horticulture, A. G. H. unintentionally, perhaps, has sounded the *retreat.*

Earnest workers in this cause are rejoicing to see the public taste and practice "falling in" to the way of triumphant success in this State, which really does possess "all the natural advantages for successful fruit-growing."

J. C. P.

MECHANICAL & COMMERCIAL.

Railways in Chili—American Engineers Abroad.

The *Railway Times* contains the following on the construction of railways in Chili:

The railway between Santiago, the capital, and Valparaiso, the seaport of Chili, was projected in 1851, and the works commenced at Valparaiso in October, 1852. About thirty-two miles of the line have been opened to the public for nearly five years. Unforeseen delays occurred to stop all further progress until last month, when a contract was entered into by the government and the present contractor for the works of the Southern Railway of Chili. This contract obliges the contractor, Mr. Henry Meigs, an American, to deliver up the railway complete in three years, and the amount of the contract is $6,000,000.

The Southern Railway of Chili is the main artery of the country, and it is proposed to extend it south from the capital a distance of 170 miles. About 52 miles have been opened for traffic for three years, and the works of the extension are being rapidly carried out. The principal engineering works on this railway are the bridges, which are numerous and of considerable extent, to suit the sudden risings of the rivers in the floods of the rainy season, and the floods caused by the melting of the snow in the Cordilleras. The 32 miles of this railway were constructed by Mr. Evans, an American engineer, and all the bridges are on the trussed system, known as Long's patent, and Bollman's combinations of cast and wrought iron. The present engineer-in-chief, Mr. Cross Buchanan, has adopted plate girders for all his bridges on the division under contract. Although perhaps not so elegant and light looking, the girder bridges are not less suitable to the country, and the difficulty of erecting and finishing them can be overcome by a judicious division of each girder into pieces suited to the mode of transport into the interior. The first large bridge of this kind yet erected in Chili was opened for traffic on the eighteenth

of September last. It has nine spans of 60 feet, and was erected and finished in less than two months after the arrival of the first sections from the coast.

The Failures of Last Year in the Northern States, the Southern States, and British Provinces.

From the annual circular of R.G.Dunn & Co., we find that the failures at the North the past year have not been so great as is generally believed. In the Northern States, in 1857, there were 4,257 failures, involving the amount of $265,818,000, against 5,935 failures during the past year, with an indebtedness of $178,632,-170, showing for the past year an excess of 1,678 failures over the number in 1857, with a diminished liability of $87,185,830.

In the Southern States the number of failures for the entire year of 1857 was 675, with an indebtedness of $25,932,000; while the partial returns for the year 1861 reveal 1,058 failures, with liabilities amounting to $28,578,257, although the returns from the seceded States embrace a period of only four months, or up to May 1, when our regular facilities were interrupted. The unusual amount of failures in this section during these four months is to be accounted for mainly on the ground that many were intentional, in order to evade obligations due at the North. Subsequent State action, annulling all Northern claims, the entire cessation of trade and the impoverished condition of the South, lead us to regard the entire indebtedness of that section as swallowed up in carrying on the war, involving a general mercantile bankruptcy there.

The excess exhibited in the amount of liabilities (resulting from the financial pressure of 1857) of the principal cities of the North, over those of the political crisis of 1861, is accounted for by the fact that the larger private banking, importing and commission houses were the heaviest sufferers—while the increase in the number of failures for 1861, with a diminished indebtedness, is for the reason that the jobbing houses have, in the past year, been the greatest losers. In November, 1860, the fall trade was passed, stocks on hand were light, and the orders for spring goods in abeyance. This, also, accounts for the diminished liability, and importers and commission merchants were, by the force of circumstances, saved from losses that would otherwise have proved more serious.

This same circular gives us the following statement of the probable indebtedness of the South to Northern merchants. There is due the four cities of New York, Boston, Philadelphia and Baltimore, about $211,000,000, divided as follows:

New York,	$159,900,000
Philadelphia,	24,600,000
Baltimore,	19,000,000
Boston,	7,600,000

In the dry goods interest alone in these cities our estimates show that New York loses $57,-000,000; Philadelphia, $14,000,000; Baltimore, $6,500,000, and Boston, $2,000,000, making a total indebtedness to the dry goods trade of $97,500,000. From this and other data, we estimate the total liabilities of the South to the Northern States at near $300,000,000.

The sudden reverse our commercial prosperity received, culminating in April last, with the probable continuance of the unhappy outbreak, prompted an economy which was very generally adopted, and has been so rigidly adhered to, that we estimate the actual saving practiced by families, in articles not of absolute necessity, at a figure which very nearly meets the expenses of the war thus far. With a population of 21,000,000, we may safely count 4,000,000 of families; and, estimating the annual economy of each family at $100, which is not large under the circumstances, we have a total saving to the country of $400,-000,000. The result, however, that may develop itself by the withdrawal of so large a number of producers, now consumers merely, and resting as an expense on the country, remains to be seen.

The North is self-sustaining, and our Western country is now reaching a more sound condition that it has for years enjoyed. The prospects for the Spring trade are good. The great abundance of the products of the soil, particularly at the West, and the immense disbursements made by the government, will put in circulation large amounts of money, and enable the country merchants to buy liberally, and generally on a safe basis.

The total failures in the British Provinces, the past year, was 310, with liabilities amounting to $6,471,769.—*Hunt's Magazine.*

Gutta Percha.

In 1845, only 20,000 lbs. of Gutta Percha were imported into England; now the consumption has increased to millions of pounds annually. Its manufacture into an endless variety of articles demands new processes, new machines, and new tools, in which the steam-engine plays the most important part. The rough blocks of gum are first cut into slices by a vertical wheel, faced with knives or blades, and revolving two hundred times a minute; the slices are then cleaned from stones and other impurities, and boiled in waste steam from the engine. The mass is next put into an iron box, or teaser, in which an iron cylinder with teeth rapidly revolves, and tears it into shreds, throwing it into vats of cold water. There the Gutta Percha floats at the top, and the impurities sink to the bottom. It is then transferred to tanks of boiling water, and thence removed into boxes, and kneaded like dough; and next rolled between heated iron cylinders into sheets, which are then cooled by passing between steel rollers. The sheets

are cut by a knife-edged machine into bands or strips. For making tubes and pipes, the soft mass of kneaded Gutta Percha is passed through heated iron cylinders, and is drawn by the drawing-mill into cylindrical cords, and tubes of various diameters. This, however, is but a glimpse of the complicated machinery and processes by which Gutta Percha is fashioned into a legion of articles. Among the applications are breast-coating for water-wheels, galvanic batteries, shuttle-beds for looms, packing for steam-engines and pumps, cricket-balls, noiseless curtain-rings, whips and sticks, policemen's staves, plugs or solid masses used in buildings, buffers for railway-carriages, gunpowder canisters, sheet-covering for damp walls, lining for ladies' bonnets, jar-covers, bobbins for spinning machines, book-covers, molds for stereotype and electrotype, coffin-linings, and stopping for hollow teeth. These are but a small number of the myriads of uses to which we have extended the application of the vegetable product which was used by the Malays ages since for a few common purposes.—*English Paper.*

The Atlantic Telegraph Again.

A circular has been issued we see, signed by Mr. George Saward, as Secretary of the Atlantic Telegraph Company in London, proposing renewed efforts for establishing submarine correspondence between Europe and America. It is alleged in this circular that, notwithstanding the failure of several submarine lines, the success of other important water routes encourages renewed effort on the route between Ireland and Newfoundland. The successful lines mentioned are that of the Balearic Islands, the one between France and Algiers, and that between Malta and Alexandria. The last is said to be the best laid—capable of "working through without repeaters, at the rate of eight words per minute—being 1,400 miles in length."

It is stated in the circular that "the internal structure of the first (Atlantic) cable was all wrong; but that the experience of its defects will enable a future effort to be successful on that line, as it is alleged to have contributed largely to the success of the lines above named." The improved mode of constructing the cable, it is stated, will be "more expensive, but this will be commercially compensated by the fact that, instead of working at the rate of two words per minute," the former alleged rate, "a due increase in the size of the conductor will give almost any speed that may be desired, even across the Atlantic, if the quantity of insulating material surrounding it be proportioned to it on scientific principles."—*Hunt's Magazine.*

THE MICROSCOPE.—An obscure Englishman has anticipated Yankee genius in cheapening that beautiful and useful instrument, the microscope, for the benefit of the million. There is a man who sometimes stands in Leicester Square, London, who sells microscopes at a penny each. They are made of a common pill-box, the bottom taken out and a piece of window-glass substituted. A small eye-hole is bored in the lid, and thereon is placed the lens, the whole apparatus being painted black.—These microscopes are full as effective as much more costly instruments sold in the shops. An eminent microscopist, who examined some of them, found that their magnifying power was twenty diameters. The cost of a lens made of glass, of such a power, would be seventy-five cents or a dollar. On cutting one of them in two, it appeared that the lens was made of Canada balsam, a transparent gum. The balsam had been heated, and carefully dropped into the eye-hole of the pill-box. It then assumed the proper size, shape, transparency and polish of a very well ground glass lens.

Gunpowder.

A member of the British Parliament said, not long since, that the quantity of sulphuric acid, used by a people was a pretty good index of their degree of civilization. It is somewhat so with gunpowder. The common supposition is, that, during a war, larger quantities of gunpowder are used than in times of peace. But this, we understand, is not the case,—and it shows how a state of war disturbs all the arts of peace, entering into their minutest ramifications, and affecting them in one way or another. Not a basket or broom, a plow or hoe-handle, a steam engine, or a pin, or needle are now made without their price being in some way affected by the war in our land.

In arts of peace, powder is employed in a hundred forms, and the aggregate consumption is very large, calling for an amount vastly greater than is demanded by all the armies in the world. These arts are now affected, many of them entirely suspended, and the consequence is, that less powder is used than when we are in a state of peace.

We have recently spoken with two or three powder-makers on this subject, whose opinions are all alike in relation to it. One of them stated that a single mine in Pennsylvania would consume more powder than all the regiments in New England.

WAR VERSUS INDUSTRY.—It has been repeatedly remarked by those who are conversant with the facts that, since the breaking out of the war, agriculture has been favored with very few inventions. The genius of the whole nation seems to be turned to the furtherance of the war, new common hand arms, gunboats, &c., being almost the only things applying for patents. The truth is, Peace and War, like good and evil, are incompatible. If one would advance the other must stand still.

SCIENCE, ART, STATISTICS.

"Insects Injurious to Vegetation"—a New and Magnificent Edition of a most Valuable Book.

The Legislature of Massachusetts, in 1859, placed ten thousand dollars at the disposal of Charles L. Flint, Secretary of the State Board of Agriculture, and directed him to prepare a new, enlarged and improved edition of Harris' well known treatise on Insects Injurious to Vegetation, with suitable additions and illustrations.

The first edition had appeared in 1841, the result of one of a series of scientific surveys instituted by the State Legislature. The report was found to be so interesting and of so great practical and scientific value, that the State ordered a second edition in 1851. This appeared very much enlarged, including most of the species of injurious insects of the country, in 1852. Both these editions were printed at the expense of the State, but neither of them was illustrated. The work was eagerly sought for, not only in Massachusetts, where works of that character are highly appreciated, but in other States, and it took rank among the very best of its class in the country. The value and practical utility were so generally appreciated, that the Legislature determined to add to its value by a liberal appropriation for illustrations, and the volume before us is a proof of the complete success which has attended the enterprise.

The edition ordered by the State, was wholly distributed by law, so that it was placed beyond the reach of very many who desired very much to obtain it; but the Legislature has provided for this difficulty by authorizing the editor to use the steel plates prepared for the illustration of the edition for the Commonwealth, in the publication of one or more editions designed for a wider circulation than that for the State could be expected to have. The work thus goes forth for the benefit of the whole country, and every farmer, every gardener and every student of natural history can avail himself of the generous liberality of Massachusetts, since without her public spirit, this splendid treatise could never have appeared so fully and beautifully illustrated. The outlay for the preparation of such a work, the cost of making collections, drawings, engravings, &c., by the best naturalists and the first artists in the world is too enormous to be incurred by any publisher with great risk of small sales to which most scientific works are liable. The price at which the work is now furnished is far below what its cost would have been, if the original investment had been made by any publisher.

Mr. Flint called to his aid the highest scientific talent in the country and laid the most distinguished entomologists under contribution for notes on the orders of insects which they had made a special study of. Among them are Dr. John L. Leconte of Philadelphia, the highest authority on the Coleoptera, or beetles. Baron R. Osten Sacken of the Russian Legation at Washington, the highest authority on the Diptera, or the flies and other two winged insects. Dr. Morris of Baltimore and Philip R. Uhler, Esq., of the same city, and many others, while the drawings were subjected to the close examination and comparison with the original specimens of Prof. Agassiz. Sonrel, the first living artist in the world for objects of natural history, a resident of Massachusetts, made most of the drawings. To say of the engravings on wood, of which there are very nearly three hundred, that they meet the entire approbation, and even excited the astonishment of Prof. Agassiz, is praise enough. They are unquestionably, taken as a whole, the most splendid triumph ever achieved in that art, as they appear on the rich paper of the splendid edition now ready. They may not print so well on cheaper paper, but they have the merit of scientific accuracy and extreme beauty.

The steel plates contain nearly a hundred objects, all *colored from life by hand.*

The reputation of this work is already well established and has long been widely known. It is eminently practical as well as scientific. Most works of this kind are too abstruse, too

hard to understand, and of course of little value to any but a naturalist, but the descriptions in Harris' are marked by clearness, simplicity and beauty, and these, added to the full illustrations, make the book the most useful, take it all in all, that has ever appeared in this or any other country.

A very superb edition is now on sale at $6,00, and it is extremely cheap at that price. This editon is very small in number and will be exhausted before most people become aware of its value. This superior edition cannot be reproduced. It is printed from the original cuts, and on paper that cost a quarter of a dollar a pound. A cheaper edition with colored plates will be ready by the 10th of April, at $3,50, and a still cheaper one, at the same time, plates uncolored, at $2,50.

The book contains over 650 pages, and is elegantly bound in antique style. It is for sale by booksellers generally.

Population of the World.

The population of the world is increasing, and if we give to the term Christian the widest latitude, it is by no means certain that the number of pagans in the world is not now as great as it ever was. Twenty years ago our highest estimate of the population of the globe was about 800,000,000. It is now admitted by all to be not less than *ten*, and by those who are the best informed, to be at least *twelve hundred million*. This change of figures is due in part to a more accurate knowledge of the geograpy of the world; but there has been a great increase in many countries, and no doubt, in the aggregate, a decided advance in the population of the globe. From the best and latest sources of information we derive the following estimate:

POPULATION OF THE WORLD.

America,	63,000,000
Europe,	265,000,000
Africa,	115,000,000
Asia,	700,000,000
Japan,	35,000,000
Oceanica,	22,000,000
	1,200,000,000

CHRISTIANS.

Protestants,	85,000,000
Papists,	180,000,000
Greeks,	68,000,000
Other sects,	7,000,000
	340,000,000
Jews,	6,000,000
Mahomedans,	144,000,000
Pagans	710,000,000
	1,200,000,000

A Telegraphic Experiment.

It is a matter of curiosity as to how quick communication may be made by means of the telegraph. Experience has shown that it is an instantaneous process. A short time since, an experiment was tried to illustrate the point. It was agreed that a telegrapher at New York city, in communication with Chicago, Illinois, should write the letter S, which is done by making three dots, and that a Chicago telegrapher should instantly, on hearing the dots, respond by making the same signs. The plan was carried out successfully, and the paper of the register at New York showed that the dots made by both operators stood so nearly together, that it was impossible to write a single dot between the characters representing the two S S. The response from Chicago was recorded as quickly after the signal from New York as it was possible for the Chicago telegrapher to make it.—*N. Y. Com. Advertiser.*

EDUCATIONAL.

Farmers' High School of Pennsylvania—1862.

The last annual catalogue of this Institution has just been sent us by the President, with the request that we should call the attention of our readers to its contents. It is well known that for sveral years past there has been much talk about the necessity of agricultural colleges and industrial schools in this county, more or less similar to corresponding institutions in Europe, and numerous attempts have been made by State Legislatures and by public-spirited men to found such institutions. Almost all these attempts have been, thus far, singularly unsuccessful. Nearly all the Middle and Western States have attempted to found Agricultural Colleges, and have been laboring for the last six or eight years to get up suitable buildings, and yet not one of them has thus far succeeded in getting their college buildings completed; several of them have attempted to commence operations and go on with partially completed buildings, but have gone down before graduating a single class.

An attempt of this kind closed in this manner about a month ago, in this State, at Ovid. Similar attempts have met with like success in Michigan, Iowa, Illinois, and other Western States. From the catalogue and circular before us, it would appear that Pennsylvania is likely to be more successful in her attempt to found an Agricultural College. Through the influence of Judge Watts, H. N. McAllister, and other influential gentlemen of the Pennsylvania State Agricultural Society, the State Legislature of 1855 incorporated the institution. In 1857, after a site had been selected, and about $50,000 subscribed to the institution,

the Legislature appropriated $50,000 for the purpose of erecting college buildings. In February of 1859, all the money at the disposal of the Trustees being expended, and only about one-third of the buildings, as originally contemplated, being completed, it was resolved to open the institution in its then unfinished state for students.

The school was at once filled to its utmost capacity, it being possible to take only about 100 students. The following year, 1860, it was also filled, and the year 1861, owing to the disturbing causes at work in the country, its numbers have been reduced to 88. It has thus been in successful operation for three years with unfinished college buildings. Last Winter, however, the Pennsylvania Legislature, with the advice of the liberal-minded and public-spirited Chief Executive of that State, appropriated an additional $50,000 to complete the college buildings, and the circular before us informs us that they will now soon be entirely completed, thus making room for over 300 students.

The college buildings are, with the basement, six stories high, and cover an area of 79,200 square feet, and when completed, will cost about $120,000. There is also belonging to the institution a farm of 400 acres good limestone land, with all the requisite out-buildings for full and complete farming operations, making the total cost value of the property of the school about $175,000.

The course of instruction is mainly devoted to science and the ordinary English branches. It embraces four years of study, and is designed to be as thorough as that of any of the Agricultural Colleges of Europe. The graduates must have gone through the ordinary college mathematical course, and have studied the natural sciences as far as they are taught in any of the scientific schools of the country.

All the work upon the farm is done by students, each being required to perform three hours manual labor daily. This work affords a source of revenue to the college, so that the expenses of tuition, board, &c., are met by the payment of the very low sum of $100 per session of ten months. The college year for 1862 will commence on Wednesday, the 19th of February, and close on Wednesday, the 18th of December following.

Persons desirous of knowing more about this institution, with a view of sending students to it, or otherwise, would do well to address the President, Dr. Pugh, Farm School, Centre County, Pa.—*Exchange.*

We do not quote the above for the purpose of endorsing all it says in relation to the Agricultural College enterprise in other States, but rather to acquaint our farmers with an institution which promises to have a career of large usefulness.

THE HOME.

"News from the War."

Two women sit at a farm house door,
Busily reading the news,
While softly around them fair twilight sheds
Her tender shadows and dews.

Peace smiles in the cloudless heaven above;
Peace rests on the landscape fair;
And peace, like a holy spirit of love,
Breeds in the balmy air.

But not one ray of peace illumes
Those sad and wistful eyes
Which search the printed record o'er,
As mariners search the skies.

Look on their faces—one like a rose
Fresh with the beauty of May;
The other pale as a waning moon
Seen through thin clouds of gray.

Yet, though one is young and the other old,
With the same soft glory they shine;
For they're tinted with tenderest lights and shades
By love, the artist divine.

Now, fast as a radiant vision, fades
The glow of the western skies;
Yet the readers read on—unmindful of all
Save the paper before their eyes.

Nothing to them the charms of that hour—
The magic of meadow and hill—
For spirits bowed down with the weight of care
Are blind to the beautiful still.

Deeper the shadows of twilight fall;
More hushed grows the dewy air,
When suddenly breaks on that holy calm
A quick, wild cry of despair.

The younger glances have found it first—
That record so sad and brief:
"Mortally wounded"—two dread words—
Winged arrows of pain and grief.

"Mortally wounded"—look again;
Alas! it is all too true—
Not the brave alone, but the fond and fair
Are mortally wounded too.

Ha, on the battle-field far away;
They, in their quiet home—
The wife and mother who never more
Shall see their loved hero come.

The grass will grow where the warrior fell,
And sweet, wild flowers may bloom
On the very turf once blackened and burned
By the fearful fire of doom.

But the smiling summers, that come and go,
Can never, never heal
The bleeding bosoms which felt to-day
Something sharper than steel.

"Mortally wounded!"—oh, dread war!
Many a victim is thine
Save those who hear your terrible voice
Go thundering along the line!

If we give proud names and echoing hymns,
And build up monuments grand
To the gallant spirits who suffer and fall
In defence of their native land!

Let us yield a tenderer tribute still—
Sad tears and a pitying sigh,
To the uncrowned martyrs who silently sink,
And die when their heroes die.

[From the Little Pilgrim.]

The Seven Children.

In the gray light of dawn a good man and his wife arose from their bed, and thanked the Lord for the rest which he had given them.

Soon the flush of morning strayed into the room where seven little children lay sleeping in their beds. The mother looked at them and said—

"There are seven of them! Ah, it will be hard for us to feed them!" She sighed; for she was thinking of the famine which was in the land. But the father replied with a smile—

"See how sweetly they all sleep—what rosy cheeks they have! and this morning's light makes them more beautiful than seven blooming roses. Surely, He who creates the glory of the morning and gives us sleep, must be faithful and unchanging."

As the parents left the room, they saw standing in a room, by the door, fourteen little shoes, growing smaller and smaller, to the end of the row, two shoes for each child. When the mother saw how many there were, she wept. But the father said—

"Mother, why do you weep? All seven of them have round lovely little feet; why need we distress ourselves about a covering for them? Our children confide in us, and shall we not trust in Him, 'who is able to give unto us exceeding abundantly, above all that are able or think?' Behold now comes the glorious light of His sun. Let us cheerfully go to our labors."

God blessed their work, and they had enough food for their children; for faith lightened their hearts, and love strengthened their hands for toil.

CHARACTER IS POWER.—It is often said that knowledge is power, and this is true. Skill or faculty of any kind, carries with it superiority. So to a certain extent, wealth is power, and rank is power, and genius has a transcendent gift of mastery over men. But higher, purer, and better than all, more consistent in its influence and more lasting in its sway, is the power of character; that power which emanates from a pure and lofty mind.—*Emerson.*

Rules for Home Education.

The following are worthy of being printed in letters of gold, and being placed in a conspicuous position in every household:

1. From your children's earliest infancy, inculcate the necessity of instant obedience.
2. Unite firmness with gentleness. Let your children always understand that you mean exactly what you say.
3. Never promise anything unless you are sure you can give them what you promise.
4. If you tell a child to do anything, show him how to do it, and see that it is done.
5. Always punish your children for wilfully disobeying you, but never punish in anger.
6. Never let them perceive that they can vex you, or make you lose your self-command.
7. If they give way to petulence and temper, wait till they are calm, and then gently reason with them on the impropriety of their conduct.
8. Remember that a little present punishment, when the occasion arises, is much more effectual than the threatening of a greater punishment should the fault be renewed.
9. Never give your children anything because they cry for it.
10. On no account allow them to do at one time what you would have at another time, under the same circumstances, forbidden.
11. Teach them that the only sure and easy way to appear good, is to be good.
12. Accustom them to make their little recitals the perfect truth.
13. Never allow tale-bearing.
14. Teach them that self-denial, not self-indulgence, is the appointed and sure method of securing happiness.

Easy Mothers.

We wish it were possible to persuade some otherwise excellent mothers how much trouble they would save themselves by exercising a little firmness towards their young children.—Of course it takes more time to contest a point with a child than to yield it; and a busy mother, not reflecting that this is not for once, but for thousands of future times, and to rid herself of importunity, says wearily, "Yes, yes, you may do it," when all the time she knows it to be wrong, and most injurious to the child. Then there comes a time when she must say "No!" and the difficulty of enforcing it at so late a period of indulgence, none can tell but "easy" mothers of self-willed children. For your own sakes, then mothers—if you have not the future good of your children at heart—for your own sakes, and to save yourselves great trouble, in the future learn to say "No," and take time to enforce it. Let every thing else go, if necessary, because this contest must be fought out successfully with every separate child; and once fought, it is

done with forever. When we are mothers, day by day, worried, harrassed, worn out by ceaseless teasings and importunities, all for the want of a little firmness at the outset we know not whether to be more angry or sorry. At any rate we have no patience to stay by and witness such sad mismanagement.—*Maternal Counsels.*

The Soul Made Visible.

Every one knows that in every human face there is an impalpable, immaterial something, which we call expression, which seems to be, as it were, "the soul made visible." Where minds live in the region of pure thoughts and happy emotions, the felicities and sanctities of the inner temple shine out through the mortal tenement, and play over it like lambent flame. The incense makes the whole altar sweet; and we can understand what the poet means when he says that

"Beauty born of murmuring sound
Shall pass into her face."

On the other hand, no man can live a gormandizing, sordid, or licentious life, and still wear a countenance hallowed and sanctified with a halo of peace and joy. Around such great manufacturing towns as Birmingham, in England, or Pittsburg in this country, where bituminous coal is used, you will find the roses in the flower-bed, and the strawberries and grapes on the vines, blackened and defiled by a foul deposit from a thousand chimneys. Thus do obscene, profane, and irreverent men, scatter their grime and stench upon the innocence and beauty around them, but most deeply and foully upon themselves.—*Horace Mann.*

About Dinners.—Would you eat healthful dinners? Eat slowly. Would you eat social dinners? Eat slowly. Would you eat a relishable dinner? Eat slowly. Please suffer a short word of exhortation—*Eat slowly.*

WIT AND WISDOM.

—"I wonder what makes my eyes so weak?" said a fop to a gentleman. "You needn't wonder—they are in a weak place," replied the gentleman.

—Milton was asked by a friend whether he would instruct his daughter in the different languages. His reply was: "No, sir; one tongue is enough for a woman."

—Ladies who have a disposition to punish their husbands, should recollect that a little warm sunshine will melt an icicle much sooner than a regular north-easter.

—Ignorance produces half the misery and all the awkwardness of life. The ability to trace causes and infer effects, saves tears, and hence adds years; and wisdom is self-possession.

—After all, we don't *live.* We all intend to, or wish we had, but never do. It is thus half an uneasy waiting and half a vain regret, so that we die at last with very little *realized* happiness.

—A man who assisted to empty several bottles of wine, afterwards took a walk. The pavements wdre quite icy, and he exclaimed: "Ve-ve-ry singular; wh-whenever water freezes, it always freezes with the si-slippery side up."

—George the First, on a visit to Hanover, stopped at a village in Holland, and while the horses were getting ready, he asked for two or three eggs, which were brought him, and charged two hundred florins. "How is this?" said his majesty, "eggs must be very scarce in this place." "Pardon me," said the host; "eggs are plenty enough; but kings are scarce." The king smiled, and ordered the money to be paid him."

—People that never accomplish any thing always *commence;* people that do accomplish something always *begin.* People that cannot sleep always *retire;* people that can sleep *go to bed.* People that are seeming Christians always *attend divine service;* people that are Christians at heart *go to church;* and so forth, showing that the head is too often schooled at the expense of the heart, and that wordy people are not an acting people.

DOMESTIC ECONOMY.

Mr. Editor:—Seeing an invitation in the last number of the Farmer for housekeepers to write for your excellent paper, I thought I would scribble a few lines; not so much because I have anything of interest to communicate, as for an example to others who may have, and from whom I should be happy to hear through your columns. I have often wondered why the Farmer did not contain more matter in the housekeeper's line, but presume it is because housekeepers are so burdened with their household duties that few, even though they possess the talent for writing well, feel any inclination to do so.

It appears to me the men have a great advantage over us poor women in the numerous machines that are patented every year for their benefit. They can scarcely cut a pail of vegetables or sow a row of garden seeds without some machine to facilitate the process, and there is something new in that line adver-

tised in almost every newspaper. Now that is all very well, as far as it goes, but why not pay a little more attention to the necessities of the housekeeper. I know there has been a great deal done for them already; still it appears to me there might be very much more done if their wants were more fully understood.

A large majority of the farmers in this vicinity, and I presume throughout the State, own from forty acres of land to a hundred or two. Some of these owe a few hundred dollars and are working hard to get out of debt; while others are saving all they possibly can for the purpose of building themselves comfortable dwellings, convenient barns or sheds and fences, or for planting orchards. And farmer's wives, as a general rule, are no *shirks*, but bear their share of the burden without complaint. Indeed, I think if they would complain a little more it would be better for them. So I am going to commence. Who will follow suit?

Sewing and knitting machines are so dear they are beyond the reach of those who stand in the greatest need of them. Marvelous washing-machines and churns I have often read about, but have never yet seen one that saved much labor. I do not know who is to blame for this state of things, but am inclined to think the women themselves are mostly so.

The fact is, a woman with a family of small children to take care of, two or three men to work for, washing, ironing, making, mending, cooking, dusting and scouring for the whole of them, without any assistance, has no strength of mind, nor any heart for anything more; and the *ladies*—they could not for a moment think of putting their delicate fingers into the dish pan, much less turn their delicate minds towards making a machine for washing dishes. Oh, horrible! better spend the whole of their precious lives in working worsted, cats and dogs, beautifully! So it goes on in the old way, for there are but few men who understand enough about the mysteries of housekeeping to assist us much, if they were ever so much inclined.

I recollect of reading somewhere, I think in a letter in the FARMER, not many months ago, that women, as a general rule, were opposed to the use of machines, and would stick to the old beaten path, doing their work as their mother's had done theirs before. Now I think this is much like the good housewife we have all heard about, who would not have a carpet on her floor; they were such nasty things! and I presume the women who would not welcome any means of doing their work quicker, easier, and at the same time as well, as by the old method, to be just about as scarce as this kind of housekeepers. Give us a few good machines, so cheap our husbands can afford to buy them for us, and see if we won't use them.

A HOUSEKEEPER.

DANVILLE, Wis., March 12, 1862.

The way Eggs will Keep.

EDITOR WIS. FARMER:—On reading the note of Mrs. R. Gibson, in the last FARMER, on the subject of how to keep eggs, I was not at all surprised at the result of her experiment.—Lye from ashes will penetrate the shell of an egg, and readily decomposes its constituent parts. The shell being porous, submits promptly to the searching power of this fixed alkali, and, as an inevitable consequence, the egg is spoiled.

From an experience of over forty years, I can safely recommend the following method:—1st. Be sure and select sound eggs. 2d. Take of *dry* salt, and place a layer of it in the bottom of the vessel; then put the eggs in, points down; then another layer of salt and eggs, as before, and so on till your vessel is filled, and I will warrant the eggs to keep from October till warm weather, if put into a cool, but dry place. Truly yours, MRS. R. W. LANSING.

BLOOMING GROVE, Dane Co., March, 1862.

RYE COFFEE.—To prepare rye for coffee, pour on scalding water and let steep half a day on the stove; spread out and dry; parch to a light brown; settle with an egg. A very palatable drink.

So says a lady friend of the "Farmer."

BROWN BREAD.—One quart rye meal, two quarts Indian meal, two tablespoonsful of molasses; mix thoroughly with sweet milk; let it stand one hour, then bake in a slow oven.

RECIPT FOR AN EXCELLENT JOHNY-CAKE.—Two cups of Indian meal; one of wheat flour; one half cup butter; one half cup sugar; two and a half cups good butter milk; from one to two teaspoons salaratus; one teaspoon salt; three eggs. Mix the meal flour, salt and saleratus well; beat the eggs and sugar thoroughly; add them to milk and butter, then stir in the meal and flour—bake in a quick oven.

LOWVILLE, Wis. MRS. M. A.

CHEAP RECIPE FOR GOOD BLACK INK.—Take 2 oz. extract logwood, ¼ oz. bi-chromate of potash, and ½ oz. prussiate of potash; add to one gallon of boiling rain water. Shake up and let stand awhile before using. Cost about ten cents.

CALVES' FEET BLANC MANGE.—Boil four feet in five quarts of water, without any salt. When the liquor is reduced to one quart, strain it, and mix with one quart of milk, and add several sticks of cinnamon or vanilla bean. Boil the whole ten minutes and sweeten it to the taste with white sugar; strain it, and fill your molds with it.

MOTHS IN CARPETS.—Camphor, two ounces, well cut, to a quart of whisky—a hot flat iron to pass over a piece of muslin with this solution and thin enough to allow the steam produced by the hot iron to penetrate through the carpet. Carpets that are taken up entirely spring and fall, are more free from the work of this insect; but this remedy is practical in all cases—perhaps more particularly where a velvet tapestry carpet is put down by a patent machine, and is so heavy as cannot be easily taken up. This hot flat-iron should be applied wherever there is evidence of the worm eating.

GREASE SPOTS.—The following is from the "Agriculturist": Many of these eyesores may be removed for a sixpence invested in French Chalk. Susanne, of Brooklyn, gives as an example, that her four-year-old carried a nice edition of Cowper into the kitchen and dabbed it into the butter plate. She scraped some of the French Chalk over the spots of grease, and in an hour afterward brushed off the powder, and put on a fresh dose, leaving it three or four hours, when Cowper was himself again. "The same application operates equally well upon greased clothing, though, sometimes, two or three applications may be needed. The French Chalk (clay) can be obtained at any drug store."

YOUTH'S CORNER.

Geology.

Perhaps some of the young readers of the Corner will not quite understand the meaning of the word "Geology." I will try to explain it. Geology, like Geography, is a description of the earth. Geography describes the surface or outside of the earth, giving a description of the appearance and position of mountains, plains, rivers, and of different countries, just as you would describe a picture. But Geology describes the inside or solid portion, just as you describe the contents of a box full of minerals, such as iron, stones, &c.

A peep behind the curtain. "Now Uncle," said the children, "please to show us the curious things which you said were behind this curtain." So I drew aside the curtain which hung before some shelves containing Geological (Ge-o-log-i-cal) specimens, when they exclaimed: "O! O! what a lot of curious things," and fairly overwhelmed me with questions, in their eagerness to know all about them. But I told them that "one thing at a time, is both reason and rhyme." Here is a piece of petrified moss or stone moss, that is, moss turned to stone. The moss grew in the edge of the water of a spring. The water had lime in it, and the lime was deposited among the moss, particle by particle, till the moss became hard like a stone; the moss keeping its natural shape.

There is another piece of stone moss that is colored red by iron that was in the water with the lime. There are five pieces each one of a different kind of moss, and from five different places. Sometimes these deposits of lime, form a rock, a great many feet thick. This kind of rock is sometimes called *Trav-er-tein*, that is, lime stone deposited from the water of springs. But it is generally called *Cal-ca-re-ous Tu-fa*. Calcareous means anything formed of lime or containing lime, and Tufa is a soft porous stone, that is, soft stone full of holes. Calcareous Tufa, then, is a soft porous limestone deposited from the water of springs which has a solution of lime in it. UNCLE WILLIAM.

WAR MISCELLANY.

Red, White and Blue.

Oh, Columbia, the gem of the ocean,
The home of the brave and the free,
The shrine of each patriot's devotion,
A world offers homage to thee.
Thy mandates make heroes assemble,
When liberty's form stands in view;
Thy banners make tyranny tremble,
When borne by the red, white and blue.

CHORUS.

When borne by the red, white and blue,
When borne by the red, white and blue,
Thy banners make tyranny tremble,
When borne by the red, white and blue.

When war waged its wide desolation,
And threatened our land to deform,
The ark then of freedom's foundation,
Columbia rode safe through the storm.
With her garland of victory o'er her,
When so proudly she bore her bold crew,
With her flag proudly floating before her,
The boast of the red, white and blue.
The boast, &c.

The wine cup, the wine cup bring hither,
And fill you it up to the brim,
May the memory of Washington ne'er wither,
Nor the star of his glory grow dim.
May the service united ne'er sever,
And each to our colors prove true:
The army and navy for ever,
Three cheers for the red, white and blue.
Three cheers, &c.

Not Yet.

BY WILLIAM CULLEN BRYANT.

Oh, country! marvel of the earth!
Oh, realm to sudden greatness grown!
The age that gloried in thy birth,
Shall it behold thee overthrown?
Shall traitors lay thy greatness low?
No, Land of Hope and Blessing, No!

And we who wear thy glorious name,
Shall we, like cravens, stand apart,
When those whom thou hast trusted, aim
The death-blow at thy generous heart?
Forth goes the battle-cry, and lo!
Hosts rise in harness, shouting, No!

And they who founded, in our land,
The power that rules from sea to sea,
Bled they in vain, or vainly planned
To leave their country great and free?
Their sleeping ashes, from below,
Send up the thrilling murmer, No!

Knit they the gentle ties which long
These sister states were proud to wear,
And forged the kindly links so strong
For idle hands in sport to tear—
For scornful hands aside to throw?
No, by our fathers' memory, No!

Our humming marts, our iron ways,
Our wind-tossed woods on mountain crest,
The hoarse Atlantic, with his bays,
The calm, broad Ocean of the West,
And Mississippi's torrent-flow,
And loud Niagara, answer, No!

Not yet the hour is nigh, when they
Who deep in Eld's dim twilight sit,
Earth's ancient kings, shall rise and say,
"Proud country, welcome to the pit!
So soon art thou, like us, brought low?"
No, sullen group of shadows, No!

For now, behold, the arm that gave
The victory in our fathers' day
Strong, as of old, to guard and save—
That mighty arm which none can stay—
On clouds above and fields below,
Writes, in men's sight, the answer, No!

Capt. Ericsson.

There are few men to whom the country is more largely indebted than to Capt. John Ericsson, the inventor of the steam gun-boat *Monitor*, whose opportune appearance at Fortress Monroe on Sunday last, averted incalulable disaster to the naval power of the Union.

By birth he is a native of Sweden, and was born among the iron mountains of the province of Vermeland, in 1803. From his earliest youth he exhibited an extraordinary genius for invention. His father being a mining proprietor, ample opportunity was afforded him to become familiar with the engines and machinery employed about the mines. In 1814 his talents attracted the attention of Count Platen. He was appointed a cadet in the corps of engineers, and in six months had shown such proficiency that he was promoted to an important post on the Grand Ship Canal connecting the Baltic and the North Sea. When only thirteen years of age he was charged with the direction of the work of over six hundred men. Many important works on the canal were constructed from his drawings at that age.

At seventeen he entered the Swedish army as an Ensign. Soon afterwards, however, he was selected to survey the Northern part of Sweden. In 1826 he visited England. There he planned many new inventions. In 1829 he invented an improved locomotive steam engine, and soon after constructed a steam fire engine. He emigrated to this country in 1839. Here he built the United States steam frigate *Princeton*, the first vessel in which steam works were introduced below the water line. Afterwards he invented the caloric engine, and planned the hot-air steamer *Ericsson*, about which so much was said a few years ago.

In his latest and greatest invention he had such confidence that, by contract, he was to receive nothing for his invention and his labors upon it, until it had borne the test of actual trial under the guns of the enemy. How triumphantly that test was borne we all know.

Commodore Wilkes.

Commodore Charles Wilkes having linked his name inseparably with the great international question of "search and seizure," it is presumed that the readers of the FARMER would like to look him in the face. We have therefore procured an engraving, which is said to be a very accurate portrait.

He was born in the State of New York in 1805, and entered the naval service in 1818, being but 13 years of age. He early gave evidence of unusual capacity for scientific research, and while yet quite young, received from the Government the command of a naval expedition intended to explore the countries bordering on the Pacific and Southern Oceans. His command embraced two sloops of war, a brig and two tenders. Having doubled Cape Horn, he crossed over to Polynesia, Van Dieman's Land and Australia, reaching as high as the 61st parallel of latitude South. He then visited the Fejee Islands at Borneo and returned to New York in 1842 by way of the Cape of Good Hope. The expedition was fruitful of

much that has a scientific interest, and he afterwards published an account of it in a voluminous work entitled "A Narrative of the United States Exploring Expedition."

Commodore Wilkes has likewise published several other works on subjects of geographical research which occupy a high place in the standard scientific literature of the day; and in 1848 he was presented by the Geographical Society of London with a gold medal as a token of the high esteem in which his services and contributions were held. His last duty at sea was in 1842; since which time he has been in the land service, until about the opening of the present war.

The event which has given him a wider notoriety than all others, which came near resulting in a war between the United States and England, and which has resulted in the settlement, it is hoped, for all time to come, of the rights of neutral vessels upon the ground laid down by the Government of this country in the very first period of our national existence, and upon terms always heretofore denied by the English Government,—this most important event, to-wit, the arrest of the *Trent* and the seizure of Mason and Slidell, was purely an accident.

The Commodore was returning from the coast of Africa in the U. S. steam frigate *San Jacinto*, and having occasion to stop for coal at Havana, he learned while there that Mason and Slidell were to leave on the 7th of November, on the British mail steamer *Trent* for England. It seems not to have occurred to him to endeavor directly to prevent their departure; but hearing that the pirate *Sumter* was off Laguagra he determined to capture her; and it was while steaming through the Bahama Channel that he encountered the *Trent*, brought her to by firing two shots across her bow, boarded her and captured the traitors in question.

The manner in which he executed his impromptu plan finally proved faulty when tried by the standard of international law as expounded by our own best statesmen, but the world will nevertheless continue to applaud the bold decision, energy, firmness, and loyal devotion of the Commodore.

NEWS SUMMARY.

INDUSTRIAL AFFAIRS.

The World's Exhibition Again.—We are glad to learn through Col. B. P. Johnson, Sec. N. Y. State Ag. Society, and Chairman of the Ex. Com. of the State Board of Commissioners for the Exhibition from the U. S., that this country will not be very meanly represented, after all. The New York and the New Engnland States are sending over a great many articles for the various departments, and will do the best they can towards filling up the space allotted to the United States.

The "Southern Confederacy," moreover, has made a liberal demand for space, which, of course, will be well filled, though it would be difficult for us to predict with *what*. Possibly with a bale of cotton, a sable group of the children of the peculiar institution, a regular manach and driver's whip; perhaps with a few pairs of raw-hide shoes, specimen numbers of Jeff. Davis' War Gazette on brown, straw paper, and an armfull of their dollar-a-pound confederate money; and may be with samples of the razor-straps, buttons, tobacco, pipes and whisky goblets made of the hides, bones and skulls of Union soldiers, by some of the *shivalry* at Manassas—that is, provided they should be so lucky as to get out of port with their contributions! It is presumed that Mason and Slidell will act as Commissioners, and that their branch of the Exhibition will enjoy the special favor of their organ, the *London Times*.

STATE MATTERS.

The Farm Mortgage Law of last session, and the system of railroad license, have been decided by the Supreme Court to be unconstitutional.

The Markets.—The changes have been but slight since last month, though in the main they are for the better.

CHICAGO, MARCH 28.

Wheat, 78c for No. 1; 72¾@73 for No. 2; Corn, 23½@23¾; Oats, 19@19½c; Rye, 40c; Barley, 35@43c; Timothy Seed, $1 50@1 75; Clover Seed, $3 80@3 85.

MILWAUKEE, MARCH 28.

Wheat, 77@80c; Oats, 25@26c; Corn, 27@28c; Barley, 40@55c; Rye, 40@43c; Hides, green, 5¼@5¾c, green, salted, 7@6¼c, dry flint, 12@13c; Hogs, $3 25@3 50 for good averages; Poultry, dressed chickens 5@6c, turkeys, 6@7c; Butter, firkin 7@8c, crock and roll 8@10c; Eggs, 7@8c per doz. in bbls.; Potatoes, 25@30c per bus.; Beans, 96c@$1 12 per bus.; Timothy seed, $1 50@1 75; Clover seed, $3 25@3 75; Flax seed, $1 00@1 20; Wool, 35@37c for medium to fine fleece.

MADISON, MARCH 28.

Wheat, extra, 69c; No. 1, 68c; No. 2, 63c; Rye, 30c; Barley, 25a5c; Oats, 25c; Corn, 25a30c; Potatoes, per bus., 30a37c: Wood, dry, $4 00 per cord, green, $3 50; Beef, $4 00a5 00 per cwt.; Pork, $3 00a3 50; Hides, dry, 8a10c per lb., green, 4a4½c per lb.

Legislative.—Among the acts of the State Legislature since our last issue, the following are prominent:

The passage of a joint resolution notifying Professors Hall, Carr and Daniels, of the Geological Survey, that their services are no longer required.

An act authorizing the investment of the School Fund in the bonds of the State.

An act giving the swamp lands, with limitations as to minimum price, &c., to the several counties where they lie.

Military.—Wisconsin troops are now nearly all in the field. The only regiment of which we have not reason to be proud is the 17th, (the "Irish Brigade"), a large number of the members of which, just on the eve of their departure, mutinied and positively refused to obey orders to repair to St. Louis—the only alleged ground, that they were *not paid.* It was in vain that the Governor coaxed and that they were assured they would be paid on arriving at their destination, and on the day appointed for leaving Camp Randall, after a boisterous night and a fire, which, originating in carelessness, destroyed the life of a boy—one of the markers—and consumed some three or four hundred running feet of the barracks, only about six hundred consented to go. The remainder became a law unto themselves and remained at camp, wandered about town, or deserted entirely. Finally the Governor succeeded in getting some 200 of Col. Mulligan's soldiers from Chicago to aid in the arrest and forcible removal of the scamps to Chicago, where the main body of the regiment awaited them. Those who escaped into the country will be taken wherever found, and, we hope, made to suffer the full penalty of the stern military law. Every true loyal Irishman in the State will be heartily ashamed of them, and indignant at their inefficient commander, to whose utter incompetency this disgraceful mutiny was, perhaps, chiefly chargeable.

NATIONAL AFFAIRS.

The war goes on splendidly! The thunder of Union cannon is heard all along the line, and the shout of victory is borne to us upon every breeze.

At Pea Ridge, in Arkansas, Brig. Gen. Curtis has fought the most desperate battle of the campaign, losing 212 killed, 174 missing and having 926 men wounded, but coming off victor, killing Ben. McCulloch and taking much property and many prisoners. The enemy were helped by a large body of Indians, who did poor fighting, but brutally scalped a considerable number of our wounded soldiers. The loss on the rebel side was very heavy. Price, of course, took to his heels, true to the old *saw,*

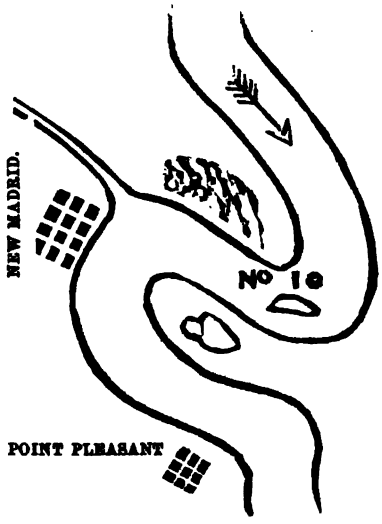
"He who fights and runs away,
May live to fight another day."

New Madrid and Pt. Pleasant, on the Mississippi and about 50 miles below Cairo, have been taken and are now occupied by our troops. The "Gibraltar of the South" has been hastily evacuated and now floats the stars and stripes—the Rebel army having gone to Island No. 10, opposite and below Madrid, where they are now being treated to a rain of fire and brimstone by Commodore Foote.

The position of this Island is shown in a cut on the following page, kindly furnished us by the *Wisconsin Patriot.*

Furthermore the Grand Army of the Potomac has begun to show signs of life and promises to strike some hard blows at an early day that, in the language of McClellan are, "to give the death blow to the Rebellion." Gen. Banks has moved across the river, driven the enemy from Winchester and Martinsburgh and is ready to move yet further when the word

comes. Gen. McClellan, now practically reduced to the rank of Maj. Gen. in the field, has moved his army to Manassas, (the enemy having previously destroyed what they could of



property and of the fortifications, and left for parts unknown—probably Gordonsville,) and taken up his temporary abode at Fairfax C. H.

In an address to his soldiers, he tells them he has kept them inactive, (which everybody will acknowledge!) but not without a purpose; that they are now disciplined and ready to do the glorious work before them; that the time for action has come, and he is ready to lead them on to glory or the grave.

In North Carolina, Maj. Gen. Burnside has been doing nobly—taking possession of several small towns and lastly of Newberne, a town of about 5,090 inhabitants, situated at the confluence of the Neuse and Trent rivers. This place was taken only after a hard fought battle on the 14th ult.

But the most remarkable of all our victories of the month of March is the triumph of the *Monitor* over the *Merrimac* in Hampton Roads. This engagement was a novelty in the history of naval warfare, and we regret that we have not space for an account of it in full. The *Monitor* (described as a black Yankee cheese box on a raft) proved too much for the *Merrimac* and the next time will sink her.

The President and Secretary of War are working shoulder to shoulder and great things are bound to be done within the next thirty days.

Under the new organization of the army there are three grand Departments, to-wit: the Department of the Potomac, commanded by Maj. Gen. McClellan; the Department of the Interior, commanded by Maj. Gen. Fremont; and the Department of the Mississippi, commanded by Maj. Gen. Halleck.

"Honest Old Abe" is, and has been since January, himself *acting*, as well as Constitutional Commander-in-Chief of all the armies, as will appear by the following Orders, and the new energy displayed by the various department shows that he is unquestionably in earnest.

EXECUTIVE MANSION,
Washington, January 27, 1862.

President's General War Order, No. 1.

It is ordered that on the twenty-second day of February, 1862, there be a general movement of the land and naval forces of the United States against the insurgent forces: That, especially near and about Fort Monroe; the army of the Potomac; the army of Western Virginia; the army near Murfreesboro, Ky.; the army and flotilla at Cairo; and the naval force in the Gulf of Mexico, be ready at any moment—the other forces, both land and naval, with their respective commanders, will obey the existing orders for the time, and be ready to obey additional orders, when duly given: That the Heads of Departments, and especially the Secretary of War and of the Navy, with all their subordinates, and the General-in-Chief, with all other commanders and subordinates of the land and naval forces, will severally be held to their strict and full responsibilities for the prompt execution of this order.

[Signed] ABRAHAM LINCOLN.

EXECUTIVE MANSION,
Washington, March 8, 1862.

President's General War Order, No. 2.

It is ordered: 1st, That the Major General commanding the army of the Potomac proceed forthwith to organize that part of said army designed to enter upon active operations including the reserve, but excluding the troops to be left in the fortifications about Washington into four army corps to be commanded according to seniority of rank as follows—first corps to consist of 4 divisions and to be commanded by Maj. Gen. McDowell; second corps to consist of three divisions and to be commanded by Brig. Gen. Sumner. Third corps to consist of three divisions and to be commanded by Brig. Gen. I. P. Heintzelman. Fourth corps to con-

sist of three divisions and to be commanded by Brig. Gen. Keyes.

2d. That the divisions now commanded by the officers above assigned to the command of corps shall be embraced in and form part of their own corps.

3d. The forces left for the defence of Washington, will be placed in command of Brig. Gen. Jas. S. Wadsworth, who shall also be military governor of the District of Columbia.

4th. That this order be executed with such promptness and dispatch as not to delay the commencement of the operations directed to be undertaken by the army of the Potomac.

5th. A fifth army corps to be commanded by Maj. Gen. N. P. Banks, will be formed from his own division and Gen. Shield's (late Gen. Lander's) division.

[Signed] ABRAHAM LINCOLN.

EXECUTIVE MANSION,
Washington, March 11, 1862.

President's War Order, No. 3.

Maj. Gen. McClellan having personally taken the field at the head of the army on the Potomac, until otherwise ordered, he is relieved from the command of the other military departments, he retaining the command of the department of the Potomac.

Ordered, further, that the two departments now under the respective command of Generals Halleck and Hunter, together with so much of that of Gen. Buell's which lies west of a north and south line indefinitely drawn through Knoxville, Tennessee, be consolidated and designated the department of the Mississippi, and that until otherwise ordered Maj. Gen. Halleck have command of said department.

It is ordered, also, that the country west of the Department of the Potomac, and east of the Department of the Mississippi, be a Military Department, and that the same be commanded by Maj. Gen. Fremont; that all commanders of departments, after the receipt of this order, respectively report, severally and directly, to the Secretary of War, and that prompt and frequent reports will be expected of all.

[Signed] ABRAHAM LINCOLN.

There is scarcely a rebel State over which the Stars and Stripes do not now float in triumph; and the work of planting it anew is still going forward gloriously. In Tennessee, Andrew Johnson is, by appointment of the President, Provisional Governor, and he firmly tells the people that their rebellion shall be crushed, even though slavery should require to be wiped out as a means to that end.

Congressional.—Congress has been very active during the past month, thought but few acts have been passed. The Tax Bill is being rapidly perfected. We shall publish a synopsis of it as soon as it becomes a law. An appropriation of $15,000,000 for the building of iron clad gun boats has been made, and a law has been passed forbidding, under heavy penalties, the return of escaping slaves by any officer of the army. A bill for the abolition of slavery in the District of Columbia is in agitation.

The President has sent in a message recommending the initiation of measures to aid any of the Slave States who may desire it, to emancipate their slaves. The following is the resolution he offers for their adoption:

"*Resolved*, That the United States ought to co-operate with any State which may adopt a gradual abolishment of Slavery, giving to such State pecuniary aid to be used by such State in its discretion, to compensate for the inconveniences, public and private, produced by such change of system."

EDITORIAL MISCELLANY.

☞ All communications, of whatever kind, intended ☞
☞ for the EDITOR *should be addressed to him ex-* ☞
☞ *clusively*; all *remittances of money and* all ☞
☞ *business* letters, *to the Publishers*. The offices ☞
☞ are separate and distinct, and attention to this ☞
☞ request will save the Editor a great deal of time ☞
☞ and trouble, while at the same time, it will di- ☞
☞ minish the liability to mistakes. ☞

Off for the World's Fair.—Ere the issue of another number of the FARMER, the Editor will have started on his mission to the Great Exhibition of the Industry of all Nations. He goes not for pleasure or mere personal advantage, but for the purpose of gaining all possible information calculated to be useful to the industry of this country—more particularly the industry of the Northwest.

The Exhibition will be our great study, though at convenient intervals of time we shall dash off into the country and make an inspection of the manufacturing, mining and agricultural districts. During the three or four months of our absence we shall prepare material for the FARMER the same as if we were at home in our sanctum —practical articles for the various departments and letters giving an account of matters connected with the objects of our mission—and as we have arranged with a competent and experienced gentleman to have immediate supervision of the correspondence and the 'making up' of the paper, it is believed that our going will be an important advantage.

All communications intended for publication should be directed, as heretofore, to J. W. Hoyt, Editor, Madison.

Communications received from W. M. Lee, Thos. Sears and J. Edl, but too late for publication in their proper place, will appear in next number.

Harris on Insects.—We have elsewhere spoken of this most excellent treatise on "Insects Injurious to Vegetation," the best, we have no hesitation in saying, that has ever ppeared on the subject, when its great practical value is considered in connection with its high scientific character. We should be glad to see it placed in the hands of every farmer, particularly of every farmer who has children to educate. It would exert a vast influence in spreading abroad a higher knowledge and wider interest in natural history and do untold good in the future agricultural interests of the country.

Let it be placed, therefore, within the reach of the young, in every school library and in every family library. No book could be more suitable to offer as premiums by the agricultural societies. This mode of awarding premiums has many advantages over the ordinary one of small money premiums. Books are kept, laid upon the farmer's table, read by his children, taken up by every caller, and thus they are constantly carrying out the objects of a society, while they are a perpetual advertisement of its existence and objects. This is especially the case of each book so awarded, has a Diploma attached, signed by the President and Secretary. A very beautiful and appropriate Diploma, has been engraved at great expense, with special reference to this volume on Insects and the other well known works of the Editor—*Milch Cows and Dairy Farming, and Grasses and Forage Plants*, and these Diplomas are furnished to societies ordering copies of these works, *for this purpose, free of cost*, a Diploma being attached within each copy, with suitable blanks left to be filled up according to circumstances.

When small money premiums are paid out, they go into the farmer's pocket with other money, and are spent, leaving no trace of the society and no memorial of the farmer's success. A good book goes out on its useful mission, with the official seal of the society in the form of a neat and tasteful Diploma, exerting its silent, permanent and powerful influence in the community, especially upon the young, and helps develope and improve the agriculture and horticulture of the country and to awaken a taste and interest in reading and study.

If it be objected that many men would prefer the amount, however small, in money, it may with equal truth, be said that within a week after a good book is received in this way, even if not satisfactory at first, it would become a source of pride and satisfaction, not only because the recipient gets his money's worth, and, in addition, a beautiful diploma, but because he has something to show for what he has done, something to hand down to posterity.

Every agricultural and horticultural society in Massachusetts has offered *Harris on Insects*, liberally, as premiums, and most, if not all, the agricultural societies offered the work on *Grasses*, nearly three hundred copies of which were thus awarded the last year by them, and also many copies of the Dairy Book. In each of these volumes, this beautiful Diploma was attached.

We commend this subject to the serious thought and attention of the officers of agricultural and horticultural societies in this State, and hope it will lead to good results and stop the practice of scattering money in little driblets, which every one, who has had any experience in the distribution of such premiums, must see the folly of.

See article on page 146 and send to Crosby & Nichols, Boston, for the books.

Write for the Farmer.—We hope our agricultural friends who have been accustomed to enlighten the readers of the *Farmer* upon subjects of practical interest relating to their vocation, have not become so absorbed in the prevailing war excitement as to abandon the use of the goose-quill altogether. Let us hear from you! In the language of the Ohio *Cultivator*, we say to all:

"Give us field news, stock news, horse talk, cattle talk, hog talk, bear talk, turkey talk, fox talk, duck and goose talk, always giving preference to the more useful and substantial items in the above list. Write early, write often, and continue to write.

Take up your rusty pens, O! ye Cattle Kings, ye Horse men, ye Shepherds of hill and plain, ye Dairy men and women, ye Wheat growers, Corn growers, Grass growers, ye Apple Kings and Garden diggers, ye men and women of the rose tree and the pansy bed, ye lovers of the grape and the juices thereof, ye Nimrods of the bush and the saddle, ye Women of the gridiron and the frying pan, who know the mysteries of broiled quail and lordly steaks, and such generous dishes as make us stout and good natured."

Again we say, write! Give the pith of what you have to say, the marrow, the quintessence. In these times the world won't stop to read long, prosy articles, however well written; therefore squeeze your ideas into the smallest practicable compass. If you can't write in the best rhetorical style, never mind: we want ideas, experiences, and will ourself put them in dress, if they need it, after you have done your best.

The State Agricultural Rooms will be accessible to the public during business hours, notwithstanding our absence, and all business communications will receive the prompt attention of our assistant in charge. The preliminary work for the State Fair will have been done before our leave, and we shall return in time to resume the more important of our remaining duties in connection therewith.

Garden, Field and Flower Seeds.—S. W. Hubbell, successor to W. D. Potter, with whom he was associated last year, is again ready at No. 21 King street, Madison, with a fine assortment of seeds of nearly every description. His stock is decidedly the largest and best that we have ever seen offered in Madison, and we hope the people of the city and vicinity will liberally patronize his establishment. Persons at a distance may order with an assurance that their communications will receive prompt attention. The postage on seeds, under the new law, it will be remembered is only 1 ct. an ounce.

Seeds for our Working Friends.—We are about receiving a lot of choice seeds of various kinds, which we propose to distribute to such of our best friends as may especially desire and deserve them. Will send them without order and at our own expense, as soon as they come to hand.

CORRESPONDENCE.

Agricultural Journals.—MR. EDITOR:—Being, a practical farmer myself, I have long noticed the ill effects of the absence of a good agricultural journal in our neighborhood, and with a view to their palliation have recently obtained copies of the leading journals of the country; and after a careful examination, I must conclude that to the wants of the practical farmer of this State, the WIS. FARMER is best adapted. With this opinion I recommend it to our neighbors, with as yet, but indifferent success. Their general excuse is, "hard times are upon us, we must economise." So say I, but not with the idea that economy consists in cutting off our greatest source of profit. I am of the opinion that agriculture, notwithstanding the contempt with which it is regarded by a certain class of—— I had nearly said human beings, is one of the most independent, honorable and healthful pursuits; and yet the deepest science which the genius of man has yet penetrated the energies of our most talented men have been called forth in its study, and still there is scope for genius which man has not known; centuries to come will not bring it to perfection, yet the nearest approach must evidently be through the combined experience of practical farmers. Let each pursue his own course of experiment, and if successful, publish it that others may profit by it. Since their experiments tend in different directions, it becomes necessary to exchange ideas, and for this purpose, the WIS. FARMER seems well adapted. For the many valuable opinions it contains, the result of much observation and experiment, we can recommend it to all readers. Hence we say that to subscribe for an Eastern paper for the sake of the politics it contains, and dispense with the FARMER, is not only bad policy, but a breach of duty to our country. Remember brother farmers, that the strongest resource of a nation is its agriculture and its ablest supporters the hands which hold the plough. JOHN RHODES.

BRIGHTON, Kenosha County, Wis.

Hamburg Poland Hens—Who has them?—I wish to procure some hens of a better breed than the common barn-yard fowls, and not finding them in this part of the country, propose getting them at Madison, if they are to be obtained there. Could you procure, or put me on the track so that I could procure, some "Poland" hens in your place? If so, what would be the probable cost of them, apiece, there?

If possible, a "Hamburg" cock, and *white*. Crested "Poland" hens would be preferred. GEO. B. MURRICK.

HUDSON, Wis.

Red Onion Seed.—I wish to get some Red Onion Seed that can be depended upon. Would prefer that from Weathersfield, Conn., as it has been proven to be good. I also wish a small quantity of Imphee seed. Where can I obtain them? What will be the cost, and how much should I plant to the acre? JOHN JOHNSON.

LONE ROCK, Wis.

Good Sorghum Seed.—For the benefit of an enquirer for good Sorghum Seed, I will say that last year I obtained a little seed and planted on trial about ten days after planting my field crop. It got thoroughly ripe, suckers and all, before frost; while my field crop did not ripen at all. This is the only cane I have ever had that has produced syrup that would grain. Should think it two or three weeks earlier than the common cane which was some years since distributed from the FARMER office. I have a small quantity for sale, and it can also be obtained at the store of A. Garland, at Monticello, and at the seed store in Monroe. I have also a quantity of the common kind. THOMAS SEARS.

MONTICELLO, Wis.

[You can get it any of the Seed Stores advertised in the FARMER. Amount per acre, 2 to 3 pounds.]

DR. HOYT,—*Dear Sir*:—I should like to know where cranberry vines could be got, and at what price. If you will be kind enough to give me some information on the above, you will greatly oblige. EDW. HASSE.

MILWAUKEE, March 11, 62.

[We are not in possession of the desired information, but presume some reader of the FARMER is and will have pleasure in notifying our friend H. by letter.]

Erratum.—Instead of "A. G. H." on page 143, read H. A. C.

NOTICES OF NEW ADVERTISEMENTS.

The attention of our readers is especially called to the advertisement of the Seed Warehouse of J. M. Thorburn & Co., New York. Their's is probably the largest establishment of the kind in this country, and their long experience in the business and their eminent success are good evidence that they are worthy of patronage.

Among the seed dealers in our own State—who, other things being equal, should always have the preference—we know of none more worthy of confidence than Thos. Hislop, Esq., proprietor of the Wisconsin Seed Store, Milwaukee. He keeps a good assortment and has the credit of being accommodating, reliable and prompt.

See advertisement of Early African Imphee Seed by J. C. Plumb, well known to our readers.

E. B. Quiner, Esq., has established a general War Claim Agency, in which all persons entitled to soldier's pay, pensions, bounty money or anything of the kind cannot fail to be interested. Mr. Q. has had considerable experience in these matters and is possessed of unusual facilities for the transaction of such business. We cordially recommend his agency to the soldiers and citizens of this State.

The Eagle Works Manufacturing Company, Chicago, manufacture some of the best machinery for agricultural, milling, sugar-making and other purposes that can be found in this or any other country. See advertisement.

Mr. Powers talks to the public again, in our advertis-

THE WISCONSIN FARMER.

J. W. HOYT, : : : : : : : : : : : EDITOR.

VOL. XIV. MADISON, MAY 1, 1862. No. 5.

Work for May.

May is the month of sunshine, of green grass and springing flowers—the poet's month. But it is also the farmer's month—the season of labor. If its days are not filled full of the work of preparation—of plowing, seed-sowing and planting, but little may be expected in the golden autumn but bitter disappointment.

The preparation of the soil for crops of every kind should be thorough; no work on the farm pays so good an interest in the investment. A third more labor expended in plowing, harrowing and rolling, will often double the yield of the crop.

Manures—Don't be sparing of them in garden or field. Let some of the precious foods they offer to the plant vanish in them and escape to neighboring fields—that is unless you exceed the measure of Scripture benevolence and love your brother farmers *better* than yourselves.

Corn has proven a good crop, better than all wheat. Don't fail to give it its just proportion of area and labor. In many localities the Dent succeeds perfectly; others, the Webster, King Philip and kindred varieties do better. Read article in last number in relation to hastening germination and preventing destruction of the seed by gophers. All things considered, check-rowing or planting in hills is better than drilling. It allows the sun to do its work more effectually and admits of more thorough cultivation, without which it would be better not to plant at all.

Give the potato crop your waste ashes. It will pay you well for the trouble. Our experience favors the use of the best for seed—but little difference whether whole or cut. Plant in drills so as to dig with potato digger. The Carter, the Pinkeye and the Meshannock are favorite varieties. The Prince Albert ranks No. 1, wherever known, and is sure of a wide popularity, when more generally introduced.

Beans will be in great demand, at least so long as the war lasts. Brain-recruiting and muscle-forming are superior diet for persons whose nervous force is subject to severe tax. They can be grown on a poor quality of land and pay well.

Horses.—It is inevitable that they should be in greater demand than for years before the war. Immense numbers will be killed, crippled and used up, while the uses to which they have been accustomed to be put will be, in no respect, diminished. It would be well to breed extensively—and from horses of the best blood. The policy which prompts so many of our farmers to employ cheap "stock horses" is of the same class with that which would recommend an inferior quality of seed because of a less price. It costs no more to raise a fine animal than a mean and worthless scrub.

Other stock.—The same course of reasoning is applicable to stock of all other kinds. Now is the time to think of it, and now is the time to act upon our suggestions.

Trees—Evergreen, Fruit and Shade—Now is the time to plant them. Don't omit it. Secure the best and plant in the best manner.

The Garden.—Who is not fond of the vegetables and fruits which are properly grown in the garden—the lettuce, the radishes, fresh and earthy, the asparagus, the spinach, the beets and onions, the summer squashes, cucumbers and melons, the early green peas, potatoes and

sweet-corn, gooseberries and all the rest of the luscious, wholesome berries? And yet how few farmers are well provided with them.—Words like these we have said again and again, until some of our readers have doubtless wearied of them. Well we are equally tired of your unpardonable procrastination and neglect.—When you stop sinning we shall stop preaching repentance—not before.

The Mechanical Condition of the Soil Favorable for the Growth of Agriculture.

The last *Journal of the Royal Agricultural Society* contains a Prize Essay on this subject, from Professor Tanner, of Queen's College, Birmingham. We give some extracts below:

The conditions which control the growth of seeds are, the presence of air, moisture and warmth; and, to produce healthy germination, all are required in definite proportions.

In regard to the preparation of land for wheat, Prof. Tanner thinks that on heavy clay soils the bare fallow is best. He is not in favor of making the land too fine. It should be left "tolerably rough." These clods of soil, he says, "will afford good shelter in the winter months, and by return of spring will have mellowed down into a nice mould, valuable to the young plant when the important operation of spring rolling is carried out."

"The great advantages of clover-ley for wheat consists in the firm furrow which can be turned over when it is plowed, to promote which object our best plows effect the inversion of the furrow without materially breaking it. Upon clay soils, and even upon strong loamy soils, a careful plowing of the clover-ley is found to produce a sufficiently firm seed bed for the wheat, especially when it is allowed to lie for some time to get settled, so that the seed may be sown upon a stale furrow. The use of a share or skim coulter with the plow, as it assists in burying the turf more completely, is generally desirable, otherwise the clover is apt to spring up between the furrow-slices, which is very objectionable.

"As the land gets lighter in its character, the well known land-presser comes in as a valuable help. These implements are generally made with two pressers, which, following immediately after two plows, very completely compress the two furrow-slices turned over, and give the land the required solidity.

"As the soils get lighter there is less objection to working them when wet; in some cases, indeed, this becomes necessary in order to give them the required firmness. It is not often in the south of England that a wet time is selected for sowing; but, when rain comes on after the work has commenced, I have known it to be continued until the soil was quite muddy, and yet no disadvantage has resulted; on the contrary, the plant has proved firmer on the portion sown wet than upon any other part.—This, which may be safe upon one soil, will often be very injurious upon another *apparently* of the same character. Soils which have a sufficient portion of sand or grit intermixed with them are thus preserved from that adhesion of the soil which would take place in stronger land, so that, in their case, the germination of the seed is but little delayed, whilst the treading of the land when wet gives it a greater degree of firmness, and this is favorable to the stability of the plant.

"The rules which regulate the quantity of seed wheat to be sown to the acre are simply these:—the early sowings require less seed, whilst for the later sowings the quantity should be gradually increased; and, again, as the soil and climate become more favorable to the growth of wheat, less seed becomes necessary.

"The depth most desirable for the germination of seed wheat depends upon the closeness or adhesive character of the soil. The seed should be placed in that position which will secure to it such a supply of moisture, warmth and air, as will most rapidly promote healthy germination. It is clear that these conditions can not be secured in soils of a different texture at one uniform depth.

"Upon loamy soils of medium character we find the depth of about 1 inch superior to any other, but as the soil becomes lighter and more sandy in its nature, the depth may be advantageously increased to 1½ or 2 inches. In a dry season, a less depth than 1 inch can seldom be looked upon as sufficient to secure to the seed a necessary degree of moisture; and a greater depth than two inches is not desirable, because the plant has then generally to raise itself in the soil so that its roots may commence their duties within a moderate distance of the surface. The mode of plowing in seed-wheat with a 3½ or 4-inch furrow is clearly wrong, for the wheat will not establish its roots in the soil at this depth, and the germination must necessarily be delayed in consequence of this increased depth. If I may make any difference in the depth of seed upon soils of this character, I let the early sown wheat be deposited rather deeper than that which may be sown later, and my reason is because the early sowings have plenty of time for making their growth, and, therefore, full depth insures a firmer root, whereas with late sowings this delay cannot be allowed, for the young wheat will then gain more by appearing more quickly above the ground; but even these variations in depth should not range more than half an inch either way. The lighter the soil becomes, the more important it is to sow at a considerable depth, as this favors the stability of the plant, and the stronger the land, the greater the necessity of keeping near to the surface.

"The advantages of the drill are very great in the opportunity afforded for hoeing the land, but when the system of horse or hand hoeing is not practised, much of the benefit of drilling is lost. After the seed has been sown it should be covered by the use of the harrow, but the less the land is worked the better, and especially upon strong soils. The roughness of the surface will be rather desirable than otherwise, for protecting the wheat-plant during the winter months.

"For sowing spring wheat the soil need not be brought to as firm a condition as for the autumn sowing, but the difference is only one of degree, and such as enables us at once to see the cause which renders greater solidity essential for autumn sowing.

"When wheat is sown upon land which is not sufficiently firm, the plant fails in the severe weather of winter; on the other hand, when the seed has a more solid seed-bed in which to establish itself, the roots are enabled to become more fibrous in form and vigorous in action, and in this manner they obtain a secure hold upon the soil from which the winter frosts can not dislodge them. The great necessity then for a firm seed-bed for autumn wheat is to insure the stability of the plant during the winter; consequently there need be no surprise that in spring we are less anxious about our land-pressers.

Barley.—The soils in which barley flourishes most luxuriantly are free-working loams, and it is not uncommon for such land to be distinguished as barley-land. This preference arises from the natural habit of growth in the barley, which requires a considerable freedom of action for the development of that bunch of fibers of which its root consists. In the preparation of land for its growth this has to be remembered; for, if the character of the soil is not naturally of the description required, we are compelled to adopt measures for rendering it so, as much as possible. The firmness which was so necessary for wheat is objectionable here, and the more completely it is destroyed the better.*

"Upon the *lightest* class of barley soils there is great danger of the manure being washed through the soil; on such lands, therefore, the use of the plow is avoided at this time (spring), as the inversion of the soil would favor the loss of manure, and the aid of a cultivator suffices to loosen the soil for the seed-bed.—Other soils are brought into a sufficiently loose and free condition for sowing, by means of a single plowing, but by far the larger breadth of our barley soils requires further preparation. I do not know any kind of grain which suffers so much in its quality as barley from being sown in an unfavorable seed-bed.

"The best qualities of barley, as well as the largest crops, are produced from soils very free and open in their character, and these indicate the condition to which we should endeavor to bring any soil upon which this crop is to be sown. To promote the same freedom in the soil, the seed should always be sown when the land is dry; for as we have seen in the preparation of wheat, that a wet seed time was conducive to that increased firmness of the soil which was then our object, so now, when we wish to avoid this effect upon the land, we should in every way avoid the cause.

"The use of the drill is very generally preferred for sowing barley to every other mode. The depth for sowing the seed is not subject to the same variations as in the case of wheat; one inch may be considered sufficient in all soils to secure its healthy germination."

Oats.—The natural energy of the root of the oat renders this crop admirably adapted for sowing on old sod-land. Prof. T. recommends plowing up an old sod in the fall and leaving it till seed time in the spring. During this interval frosts are almost certain to have crumbled the surface and produced a nice light mould for the seed; such land will then present the most desirable seed-bed for oats—a soil well charged with vegetable matter, firm beneath, yet easy of penetration for the rooting of the plant, with a surface light and free in its character for the germination of the seed. This firmness of land for the root must be distinguished from the hardness with which wheat will contend after it has once made a fair growth.

He recommends leaving the land rather rough after sowing, and says, "I have known the greater portion of a crop of oats blown off the ground, simply from the field having been rolled instead of being left rough from the harrow. Upon such land the seed must always be buried deeply, say two inches, for this gives the plant a better opportunity for securing itself to the spot."

"Peas.—The pea requires a free and loose soil for its successful growth, and it is upon soils of this character that it is chiefly cultivated. The land can scarcely be rendered too free for their growth, and hence soils which do not need to be plowed a second time are improved by the use of the cultivator in the spring, unless the manure is thus brought to the surface, in which case a drag will be preferable. The seed-bed best suited for peas may therefore be described as a deeply-worked and well-cultivated soil, fine in texture, loose and free; the seed should therefore be sown when it is dry, so as not to prejudice the conditon of the land.

"The depth at which the seed should be sown will vary from two to three inches, according to the time of sowing and the nature of the land; the earliest sowings and the lightest lands having the seed deposited at the greater depth. Drilling is, beyond question, the best mode of depositing the seed so as to

*"That is to say, within four or five inches of the surface. According to my experience any loosening of the subsoil by double plowing on light land, in a dry climate, is prejudicial to the barley crop.—*Ed. Journal.*

allow of cultivation between the rows during growth. The plan of double rows, 9 or 10 inches apart, with an interval of 18 or 20 inches between them, is advisable because of the greater facility for cleaning the land, and the greater support which the peas gain from the neighboring row. Three bushels of seed to the acre is the usual quantity sown.

"GRASS AND CLOVER SEEDS.—These seeds are small in size, and proportionately weak in their powers of growth; for which reason they require the greater care to secure their healthy germination. A depth and condition of soil which may be suitable for larger and more vigorous seeds is really destructive to their growth. Experiments prove that seeds of this class should be laid as near the surface as possible, so that the covering of the soil shall be of the thinnest character. A slight covering, however, is desirable for the purpose of retaining moisture; for seed placed upon the surface is naturally subject to the drying influence of the air, which, after germination has commenced, may so check the growth as to prove destructive to its existence."

Sugar from the African Imphee.

PROF. HOYT,—*Dear Sir:*—Seeing in your valuable paper a kind of general invitation to tillers of the soil to communicate their experience for the benefit of the public when it possessed any of the requisites for so doing, and believing in the principle, I enclose a few hasty remarks on my experience and views of cane culture. I have raised crops of cane for five consecutive years, and after succeeding beyond my most sanguine expectations, I fully believe, that with proper information, the general cultivation of cane may be carried on as safely as any of our now staple crops, subject of course, like wheat and all others to partial failures in unfavorable seasons.

If every one who has succeeded to any considerable extent, would freely communicate, through some generally available medium, to the public his experience, such information would soon be obtained by all so disposed. I may, perchance, have discovered something that others have not happened to, and others again something that all, except the discoverers, remain in ignorance of, and although each and every one embarked in the investigation might ultimately attain the highest perfection, yet how much toil and perplexity, as well as time, might be saved by a free interchange of experience. I realize this by my own experience—by the days and weeks of untiring effort to succeed in some point that five words from one who had learned it before, could have saved and made the problem as easy as Columbus making the egg stand on end.

I believe our syrups and sugars can be produced at home, of good quality, and hundreds of thousands of dollars saved by so doing, saying nothing of the extra comfort, and the ladies thousand sweeter smiles occasioned by the plentiful supply; and also that it can be manufactured without any expensive machinery, bringing it within the reach of all of common means and capacity.

This I regard as a very important feature; anything like an ordinary sugar refinery involves so much expense as to be useless to the masses. So far as we can to advantage, we should produce all articles of common necessity, and especially at this time, which will probably try men's purses as well as "souls." By making the production of cereals for export our main business, we are by degrees exhausting our rich soil, and in some degree overstocking the markets, thereby depressing prices.—By cultivating cane, or any new crop we can produce to advantage, the direct tendency would be, by pressing a smaller quantity on the market, to advance the prices. Perhaps if only half the wheat and pork had been produced in the Northern States, the past year, it would have sold for about the same amount; and if so, and the labor of producing the other half had been expended in producing something else of equal value, what an immense amount would have been gained. At this critical period we more than ever need to know and avail ourselves of all our resources to be, as far as God and nature vouchsafe the means, Independent.

Having been a citizen of Wisconsin for 26 years, hoping it to be my home for life and the repository of my ashes after death, I feel an interest, and, still further, a pride in seeing the State A No. 1, in every useful and honorable

branch of business that nature has fitted her for.

The past season I have made sugar that would compare, for color and flavor, favorably with the best qualities of New Orleans sugars. Every one who has tried it knows that syrup capable of producing good sugar, without any refining, is of good quality, and when we make the syrup right, it will form sugar itself, as it often does in considerable quantities in Southern syrups. I know, by sad experience, the effect of publishing some person's theory of cane culture; all plausible and honest, and undoubtedly designed for the public good, but unfortunately not proved; and when you had eagerly swallowed it all and prepared every thing according to rule, and every thing was ready for the production of the beautiful sugar, the fondly cherished hopes must be dashed to the ground with what ought to have been nice sugar, but was not and could not be hired, driven, or coaxed to be. That was all the difference, and the deluded operator voted unanimously that cane culture was a humbug. I have been there, and seen the tarry black mass containing the last quivering, flickering hope, poured on the ground with unmistakable unction. Such was too much the character of the earliest information.

We want to know what a person has done and what were the results. I read in your March No. a communication from Mr. Plumb, on the subject, which I fully endorse, so far as I have tried. I scald my cane seed before planting, but have not tried coating with flour, &c. For the success of cane culture, we want first to find the particular species best adapted to our soil and climate, and I doubt not hundreds have been deterred from success by sending away for seed and happening to obtain some kind not adapted to their locality. The early kinds of African Imphee have succeeded the best and surest with me; in fact, I may call it as complete a success as any kind of crop. I have cultivated several varieties, and presume there are many more that I have not been able to obtain, some perhaps considerably superior to any I have raised. Free interchange of views and comparing notes, may inform all as well as the successful cultivator which are the most profitable kinds for our State.

I will enclose a sample of the best sugar I have now on hand, but not by any means the best I made. This was made from syrup poured by mistake into a sour cask, thereby almost ruining it for graining; still by working it up fine with a knife blade you can form a good idea of what it would have been with a free, firm grain and dry, which of course would make it much whiter. The same syrup that was not put into sour casks produced sugar full forty per cent. better, but I have none of it now. This sample, when it reaches you, will become so compact you will need to work it up well with a knife blade to see what it ought to be.

Accept my thanks for the FARMER if I did wait till the second year after subscribing before receiving it. CYRUS CLARK.

Moscow, Iowa Co., Wis., March 26, 1862.

[The specimen of sugar sent by our correspondent was of a bright color. Although it was compacted into a mass, it was easily worked with a knife, producing a very light colored grain of a quality equal to the best refined cane sugars. With such results as Mr. Clark exhibits, we feel sanguine that the raising of sugar in this latitude will become a fixed fact. Will Mr. Clark give us his experience in the matter?—ED. FARMER.]

Receipt for Curing Meat.

The *Germantown Telegraph* gives the following receipt for curing meat, and says that "after using it for about twenty years, and comparing the hams so cured with others cured by a dozen different processes, we are more than ever convinced of its superiority." It is this:

"To one gallon of water take 1½ lbs. of salt, ½ lb. of sugar, ½ oz. of saltpetre, and ½ oz. of potash. In this ratio, the pickle to be increased to any quantity desired. Let these be boiled together, until all the dirt from the sugar rises to the top and is skimmed off. Then throw it into a tub to cool, and when *cold*, pour it over your beef or pork, to remain the usual time,

say four or five weeks. The meat must be well covered with pickle, and should not be put down for at least two days after killing, during which time it should be slightly sprinkled with powdered saltpeter, which removes all the surface blood, etc., leaving the meat fresh and clean.

"Several of our friends have omitted the boiling of the pickle, and found it to answer equally as well. It will not, however, answer *quite* so well. By boiling the pickle, it is *purified*—for the amount of dirt which is thrown off by the operation, from the salt and sugar, would surprise any one not acquainted with the fact."

The Art of Agriculture.

The *Scientific American* says:

"A great deal has been written and said about the science and art of agriculture, but for practical guidance the whole thing is in a nut-shell. It consists in these two rules—make the land rich, and keep the weeds down. If any person who tries to raise any plant will follow these two rules he will succeed, and if he does not follow them he will not succeed."

The *Scientific American* is generally good authority in all matters relating to the arts and sciences, but its present view in regard to the art and science of agriculture we consider falls far short of the mark.

There is a large proportion of land in almost all countries, that, in addition to manure (that is, the ordinary fertilizers), requires its constituents entirely changed. If light and sandy, by the addition of clay or heavy loam; and, on the other hand, a heavy clay soil requires an addition of sand in order to render it sufficiently light and porous for farm crops. In the older countries of Europe the character of the soil is modified to a great extent in this way. Again; How many thousands of acres of land there are that is almost worthless for cultivation in its natural condition, but rendered extremely productive by a system of thorough draining; and to introduce and apply this system in the most perfect manner requires the exercise of both science and art. Then again, there are immense tracts of country possessing all the natural elements of fertility where rains seldom fall, or, if rain occurs it is generally in winter, and the deficiency of moisture is supplied by artificial means involving no small degree of skill and science; and these, too, are called in to the aid of the most successful farmers in carrying out a perfect system of rotation—different soils, locations and markets requiring some modification in order to insure the most profitable returns, and to maintain and add to the fertility of the soil. All these require some knowledge of the sciences as well as of art, beyond the mere routine of applying manure and killing weeds.

Why don't they use the Roller?

Why don't our farmers use the roller more frequently? Is it because they are not willing to incur the expense of the purchase? Is it because they are not disposed to bestow the extra amount of labor involved in rolling their fields, or is it because they do not understand its uses and benefits? Do they not know that a roller is almost indispensable on light soils, because it presses the earth closer around small seeds—that it is equally useful on heavy soils, because it crushes the clods, and brings the pulverized earth in direct contact with the seed—that it is good on grass fields because it presses small stones, bones, &c., which would otherwise injure the knives of the mower, into the earth, and out of the way, and that it also levels ant and mole hills—that it is useful upon wheat fields in the spring, pressing the plants which have been thrown out by the frost, into the earth again—that it exercises a most happy influence upon oats, if used after the plants have attained a heighth of three or four inches; in a word, Mr. Editor, that it is good almost everywhere, and ranks very properly with the most important implements on the farm?

It is astonishing, that while we are making progress in almost every other direction, we have done so little towards the general introduction of the roller. My own experience with it, has been so entirely satisfactory, that I cannot forbear urging its importance upon every farmer who has thus far not tried it.—*Farmer and Gardener.*

How to Trap Gophers.

I used to be of the opinion that people knew how to catch the gopher, if they desired to do so, and that those people who had their fields overrun with this pest were either too lazy or thought that the gopher did no harm; but finding myself mistaken I will give you my way of catching them, which I have practiced for many years. and exterminated them from a 35 acre farm, and have only occasionally to set my trap for some emigrant from a neighbor's farm.

All that is required, is a common steel rat trap, a spade, and a board about 18 inches square. Dig a hole about a foot square between two of the gopher's mounds, or just inside the outside one, so that you strike the gopher's hole, which a little experience will enable you to find with ease. Dig your hole an inch deeper than the bottom of the gopher's, set your trap facing one of the holes and cover it with fine dirt so that he cannot see the trap, then put in a small piece of sweet potato, horse radish, a few grains of corn; cover the hole with the board, and throw some earth around the edges so as to perfectly exclude the light, for if this is not done, the gopher will simply close up the hole you have opened, but if all is

dark he will go into the hole to see what is the matter. It is not necessary to put anything in the hole, but it is better to do so, for it will often tempt him to go into the trap when otherwise he would not.

This work can be done by the boys, who will find it good sport, besides keeping them employed; and it would not be a bad idea I think to pay them a trifle per head for the gophers they catch, and let them earn a little pocket money, which is much better than giving them money in any other way; the boys will feel much better to know that the money they spend was earned, and it will teach them the value of money and give them habits of industry.—E. A. RIEHL, *in Valley Farmer.*

WHAT SPRING CROP SHALL WE SEED WITH?—In reply to this question, the *Prairie Farmer* says: "It is the experience of most prairie farmers with whom we have conversed on this subject, that *oats* is the best crop to seed with —for the reason that the foliage shadows and protects the plants from the sun. The earlier in the spring the oats and seed are sown, the better."

We had supposed that, in the majority of cases, *oats* were the worst crop to seed with—and that for the very reason assigned by the *Preirie Farmer* for their being the best. The dense foliage *smothers* the young seed plants. Perhaps we are mistaken on this point, and should be glad of the experience of our readers.

STOCK REGISTER.

Skim-Milk Calves.

MR. EDITOR:—In the April number of the FARMER is an article under the above heading, copied from the Massachusetts *Ploughman*, and endorsed by you, which is so contrary to my own experience and reasoning, that I feel obliged to spend a few hours of time appropriated for rest, to answer the same. The essence of the article alluded to is, (clad in a great deal of nonsense) that calves ought to be raised by sucking the cow, instead of by hand, and on fresh milk instead of skim milk for a great many calves.

Experience teaches different. My way is, when the calf is born I let the cow lick it dry; next I tie it, with a leather strap around his neck and a rope, in a pen where the cow cannot see it. Milk the cow, and feed the calf for about 8 to 14 days with milk fresh from the cow, three times a day. For a few days it will be necessary to give the calf a finger in the mouth, but it soon learns to drink without. Some of my neighbors let the calf suck for about three days, but the older the calf is the handier it will it be to learn to drink. A calf will drink a half pail of milk in a few minutes, and the cow will give her milk freely down, but when the cow is accustomed to have the calf suck, she will hold the milk back, and it is much less trouble to take the milk to the calf than to bring the calf to the cow, wait till it has sucked, and bring it back to his pen.

After the above mentioned time I begin gradually to feed the calf with skim milk—first about half and half, after a few days all skim milk. Calves will grow well by feeding them skim milk, but fresh milk will keep them fatter. Two cows will raise two calves well, and supply a family with five or more children with all the butter and milk they need. Besides skim milk, I give my calves always a little hay and often a drink of fresh water.

Calves born in March I turn out with the rest of the cattle about the first of June, and from that time give them only some sour milk in the evening to make them come home, they will never attempt to suck their mothers. A neighbor of mine assures me that other calves fatted up the first year over grow themselves, and afterwards never make big oxen. Some may claim that calves sucking the cow is more natural, but is not culture an improvement of nature, and to make the best and most profitable use of things, the great aim of farming, would it not be more natural to see the prairies ornamented with wild flowers, than to turn them over and raise food for man?

I and my neighbors raise as good calves by hand and skim milk as I have seen in East Florida, where calves suck their mothers for two years, and twenty-five cows will hardly supply a family with milk for about six weeks in summer.

In support of my position, I extract the following from the pen of S. W. Cole, Editor of the agricultural department of the Boston *Cultivator:*

"When milk is in great demand, calves may

be fed on scalded skim milk, thickened with meal given warm three times a day. It is better for the calf and cow for him to suck one or two days; then learn him to drink new milk, by holding the hand in the vessel of the milk, and turning up the finger in his mouth.—Change gradually to porridge. He will soon learn.

"We have raised calves in this way that were worth as much as others raised on pure milk, and all ran together. Pure milk generally gives the best growth while sucking, but those that are fed may be weaned more gradually, and are less affected by the change. We had only one cow that calved early, and we bought another calf and two pigs, and fed all four on the skimmed milk, and had milk to use in the family, and made butter enough for a small family and some to sell; all from one cow. They all did well, very well."

Having talked enough of skim milk and calves, permit me to say to the Housekeeper of Danville, that her communication to the FARMER was read with much pleasure, and generally endorsed by housewives of my acquaintance, and that we all should feel glad to hear from her again. Yours truly, ADOLPHUS.

SPARTA, Wis.

REMEDY FOR LICE IN FARM STOCK.—The following remedy I have used and found to be a certain cure, and one which I am satisfied will not fail, if properly tried:—Take two ounces Venice Turpentine, one ounce of Red Precipitate, eight ounces Fresh Butter: take the turpentine and put it into a smooth vessel, pour water upon it and stir it well, then pour off all the scum that arises on the top, and continue this process until it becomes like cream, or wax, and then add the other ingredients and mix them well before using. One ounce of the above will cure the itch and kill lice of all descriptions on man and beast, and the old sow too.—*John Eversole, in Canadian Agriculturist.*

DRY FOOD FOR HOGS.—A correspondent of the *Country Gentleman* says: "Many hogs are kept comparatively poor by the high dilution of their food. They take in so much water that there is not room for a good supply of nutriment. Hence the reason that those farmers who carefully feed *undiluted* sour milk to their hogs, have so much finer animals than those who give them *slop*. The hog has not room for much water; and if food which contains much is fed to him, it makes him big-bellied, but poor." Hogs, as well as all other animals, should be allowed all the water they will drink, but it should not be mixed with their food in excessive quantity—the hog should not be *obliged* to take more water than he wants in order to get the food he requires.

Green Soiling Stock.

The following extracts from an article by D. S. Curtiss, Madison, in the Patent Office Report for 1859, are worthy of the careful consideration of every farmer:

DOCILITY OF ANIMALS.

As has been previously hinted at, the systematic handling, at regular times, of all the stock—cattle as well as horses, in and out of their stables—so familiarizes them to their keepers that they become pleasantly acquainted with each other, which affords increased confidence in both, and thereby the animals become docile and tractable, and the owner comes soon to understand well their wants, nature, peculiarities, and diseases—if they have any, which is very seldom—and how to treat them successfully. Thus, the management of stock, generally, is reduced to a science, eliciting study, observation, and reflection, and by thus exercising the intellectual faculties, the business becomes far more interesting, as well as profitable.

Knowing and appreciating the animals more highly, the keeper is moved to treat them rationally and with increased kindness, which really constitutes him a better man and them better servants!

Were *such* the only advantages to be derived from the soiling process to the humane lover of knowledge, they of themselves would be rich compensation for all of the additional attention required to practice it. Besides, the stock can be more judiciously supplied, with more comfort to them, the food being readily selected, as to kind and quality, agreeably to their particular wants; and the owner is happily relieved from the annoyance of "breechy" depredations by "unruly" cattle, which often commit more destruction in a single day or night than their own worth, to say nothing of the damaging effects to his own temper and equanimity, which, oftentimes, considerably abridges both profits and enjoyment. This should lead to those higher reflections and more beneficent impulses which it were well should enter into all of our transactions, with either men or animals who are always to be our companions or servants.

With these reflections, we will proceed to point out the more direct and pecuniary benefits of the practice, as they have been abundantly proved by the varied experience of

enlightened operators on both sides of the Atlantic.

NINE DISTINCT BENEFITS.

We can now sum up, clearly, nine principal advantages that may be surely derived from the faithful practice of this beautiful system of *green soiling the stock* of the farm, besides the incidental benefits which grow out of it indirectly, namely:

Saving of land; saving of fences; saving of food; improved condition and comfort of all the animals; freedom from breechy depredations; larger accumulations of manure; and increased order in all the business of the farm.

Incidental to these, will be greater cleanliness throughout the premises, there being few foul fence-corners, and no feed or manure scattered about under foot; a greater variety of food can be used, and everything saved; allowing the convenience of doing more of the work by one's self, and requiring the paying out of less money; and permitting the sale of a larger portion of all grain and fruit, or other *matured* products that may be raised on the place, and be desired in the usual market; and the comfort of doing a much larger share of the ordinary business under shelter; and having a much larger amount of *value concentrated* in a comparatively smaller space, throughout most of the farm property and products; as, for instance, one hundred dollars' worth of stock or grain occupies much less space than the same value in land or fences, and a hundred dollars' worth of wool or butter less space than the same value of grain. * * * *

HIGHER INFLUENCES OF THE SYSTEM.

When thoughtfully considered, it will be seen that the general effect of this practice upon the mind of the operator will be elevating and salutary. This branch of his business absolutely requiring constant *gentleness* and *order*, his *general* habits and feelings will naturally become imbued with similar principles and sentiments toward everything with which he comes in contact, to a much larger degree than *could* be under the ordinary mode of imperfectly and carelessly cultivating large farms, and allowing the stock to run at large, often trampling under foot and destroying as much good feed as they consume, and subjecting the keeper often to harassment in chasing after his half-tamed animals; his own disposition, as well as theirs, getting badly "riled-up," interrupting his tranquility and happiness for hours or longer; causing him, in some measure, to lose his kindly interest in them; and, as though it were a kind of natural reflex from his own condition upon them, they do not thrive so well as they ought, but being frightened and excited they, too, *fret away* some portion of their *thrift*—serenity being as essential to the highest product of milch cows and fattening animals, as to the enjoyment of man. The very opposite from the above is the case where all the animals are quietly secured and amply fed; comfort and order reigns; and their being little or no disturbing cause to man or beast, the former seldom maltreats the latter; and all enjoy thrift and progress to the highest reasonable degree.

This to some, with only partial reflection, may be deemed but a trifling consideration; but the more thoughtful and observing operator well knows that no attitude of mind, in the farmer or other person, can be productive of more enjoyment and prosperity than the steady preservation of gentleness and serenity; it is certainly a manly, a noble deportment, and must ultimately be as profitable as it is pleasant.

In addition to all this, the operator will uniformly find this frame of thought and mind far more favorable for reflection and investigation into the causes of all the various phenomena which constantly come before his observation in the pursuit of his business, and to enable him to extract therefrom more elevated enjoyments than can be experienced by the person who is constantly confused by disorder and excitement from surrounding circumstances.—Order and tranquility are eminently essential to deep and efficient thought and the successful pursuit of knowledge everywhere, but especially so in the study and examinations of living creatures.

Besides, many of the neighborhood quarrels and individual enmities are engendered by damages and trespasses committed by cattle running at large, and often terminating in lawsuits, that subject both parties to losses, in time and money, greater than the value of the damages and animals combined; all of which would have been comfortably avoided under the general prevalence of "soiling" the animals in *secure stalls.*

GENERAL VIEW OF THE SUBJECT.

Whatever is conducive to order and thoroughness in its operations must be advantageous to the pursuit of agriculture, generally, in all regions; and to forward that object, is the sole and earnest purpose of writing this article.

That process which increases the fertility of the soil, while it preserves its productiveness, and which secures the highest remuneration to the largest amount of labor, with the least depreciation of the capital upon which it is employed; whatever accomplishes these ends, or any of them, in one State, must be good policy also in any other, while the like results follow the operation.

Now, it is well known that land, which is liberally enriched by suitable manures, will produce much more bulk and value of succulent feed if the crop be frequently cut off, before it ripens or matures, than if left to attain that complete state before it is cut at all. For instance, if a field, which is mellow and in high tilth, sowed with corn, or oats, or millet, or

other like crop, be mowed two or three times during its growing season, it will yield at least twice as much as if cut but once in that season. So with clover, and the ordinary meadow grasses. This results in obedience to a pervading law in vegetable growth, which continually strives to reproduce or perpetuate itself so long as the season for growing will permit, and winter holds off.

If meadows are sufficiently rich, and kept annually top-dressed with fine manures, they will yield two to three tons of good hay at *one* mowing in the season; but if cut *three times*, at periods properly chosen, during the season, they will yield four to six tons of still better hay than that obtained at one cutting. And instances are numerous where even twice that quantity has been obtained to the acre from timothy and red-top, or even blue-grass meadows. These statements are sustained by testimony, both in this country and Europe, of early as well as recent date.

There is a prevalent belief among many cultivators, that for a "stock-farm," or to keep a large number of cattle, it is absolutely necessary to have a large farm, or a vast tract of land; an opinion, it is believed, not well founded, which a fair understanding of the plan and results of "soiling" plainly shows, for it is evident that the cost of additional land and fences demands more capital by far to pasture large herds and flocks, than is required to cultivate sufficient crops from less land to feed them with in stalls and yards, where no feed is wasted and much manure is saved. The accumulation of *acres* increases taxes, but their enhanced *fertility* does not increase the amount of taxes.

By taking the facts, results, and operations above elicited, and carefully and honestly making estimates, in comparison with ordinary farming anywhere, it is believed that every candid inquirer will arrive at the conclusions stated above.

High Feeding of Sheep:

FOR THE BENEFIT OF ALL WHOM IT MAY CONCERN.

Eds. Rural New Yorker: You know I have for many years advocated the higher feeding of sheep and cattle and keeping them growing in winter as well as summer. No farmer can afford to let his stock *stand still*, and what is far worse, let them get poorer from the first of December until the first of May or later.

Now, I will give you a case that came directly under my own notice. A long-time friend of mine, who lives at a considerable distance, was visited by me a few years ago, when I looked at his wool, just then shorn. I handled a few fleeces, and then said to him I was surprised that any man of common sense would raise such light fleeces. He asked how he could help it; he fed them all the hay they would eat in winter, and it would not pay to feed grain to sheep. I told him that it would not pay to keep sheep that sheared such light fleeces at any rate, and that, if it would not pay in the way he was keeping, he had better try grain, as he could be no worse off. Advised him to feed straw and grain until April, then have good, early cut hay, to feed until grass, either with or without a little grain; and, judging from his breed of sheep, I was confident that in a few years, by cutting so much less hay he could afford them far more pasture, and in that way he get his fleeces to average from five to six pounds—that he would raise far more and better lambs, and thus make his sheep profitable. I left him without knowing whether he would take my advice or not, but he did take it, and gave the sheep three-fourths of his meadows for pasture. When winter commenced he began feeding half a pound daily of buckwheat to each sheep, with fresh straw three times a day, (wheat, oat, and barley straw,) until the first of April; then gave good hay, with a very little grain. The first year his fleeces were increased about 1¼ lbs. each, or from 2¾ to 4 lbs.; the next year they averaged 4 9-16 lbs., and this year they averaged plump 5 lbs. But that is not all his gain; he raises far more lambs and far better ones, and he sells his wethers immediately after shearing for nearly or quite double what he could formerly get in the autumn.

Now let us look at the cost in keeping sheep in the way I recommend. In the first place there is the saving in the expense of cutting and making four months' hay, which is a considerable item. Say 75 lbs. of buckwheat per day for each sheep, for 150 days, at 40 cents per 48 lbs.—making 62½ cents. Increase of wool, say only 2 lbs. at 46 cents, (the price he sold it for these two years,) is 92 cents. Then there is the profit in more and better lambs, the additional price for the wethers, besides getting them off in June in place of October, and the saving of cost of cutting the hay.—Why, I should think any farmer could at once see that the profit is immense from keeping on dried up timothy hay and poor pastures in summer, and then every farmer can do this that raises straw and oats, barley, buckwheat and corn; for either will answer the purpose, only give half to three-fourths of a pound daily to each sheep. I assure you there is no way of making stock of any kind pay unless fully fed. When once sheep are got up in good condition, a little less than the above quantity daily will answer a very good purpose, especially if grain is high; but I have put the buckwheat above the average price on the farm; peas or oil cake meal is better than any grain for sheep.

Now, Mr. Editor, there are many thousands of farmers keeping their sheep equally as badly as my friend did a few years ago, who might better their circumstances greatly if they would only read this and believe me. I write what I do know and nothing else. It makes no differ-

ence whether a farmer keeps 100 or 5,000 sheep; he ought to keep them all in the same way.—When I kept a flock of from 800 to 1,000, I fed half a pound of oil cake meal or corn daily to each sheep, even when I fed hay all winter—at least always after I found out by experience that that was the only true and sure way to make them profitable. I know H. T. B. thinks it might affect trade and commerce if farmers should feed so much grain to their stock; yet my candid advice to farmers is to try it. If they find it ruinous they can discard the practice. But to begin with lean stock, they must feed them well for two years before they see the full effect of the change, and it may even take longer than that with poor, starved animals; but begin and continue one year and you will never give it up, I am confident.

JOHN JOHNSTON.

[For the Wisconsin Farmer.]

Thoughts for Wool Growers.

It has become a settled question that wool growing in the West, has become a very profitable branch of industry. It has been doubted by many that keeping sheep exclusively for wool was a profitable business, but the steady advancement made in sheep and wool the past ten years, seems to remove the strongest doubts. Still there are many at the present time doubting whether it pays to bestow much attention in the improvement of sheep for wool, for the reason that the coarser grades of wool were in quicker demand the past season than the fine. Extremes always seem to rage in the wool market, which are often a great detriment to the breeder, by introducing a very inferior breed, thereby destroying the well adapted qualities of his flock for wool, which has cost him years of labor to improve. Fine wools always have been in better request than the coarse, and always will, because the more durable and fashionable clothes are made of such. The wool grower should consider well his own interest, he should aim to improve his wool and sheep in a way that will yield him the greatest profit, regarding well the fine, white, lengthy, dense staple of wool, which will always invariably suit the manufacturer, and when worked by him into cloths, in a true and honest manner, (keeping it free from combustibles of different kinds that often infest the clothes,) the consumer is well pleased by using an article that is durable, and at the same time feeling that he is not imposed upon, but can wear the true and genuine article. It is a question with many, which breeds of sheep are the most profitable. Permit me to suggest a few thoughts on breeding sheep for wool. I will confine my remarks more directly to localities remote from the great mutton markets. In such localities as this State the production of wool should be the primary object, we should keep such sheep as will yield the most wool upon the least keeping, or the greatest profit at the least expense. The Spanish Merino possess more points of excellence than any other breed of sheep for wool, and are generally considered by good breeders to be better adapted to our climate than any other breeds that has been introduced. They are of medium size, compact in form, bearing a fine, lengthy, thick set staple, which is a good shield against storms, and the severe cold weather of winter, rendering them the hardiest and most complete sheep to endure the western climate. It cannot be denied, by those who have had experience, that such sheep are the most profitable for wool growing. They yield a very bulky, heavy fleece; the fiber being very strong, well adapted to the manufacturers' use; while the wool grower is amply paid for his expense in rearing and keeping his flock. Many of our western wool growers are not satisfied with the Spanish Sheep, on account of size, they are not content with the medium, compact form, yielding the greatest profit from the least keeping, but are continually experimenting in order to increase the size of carcass so as to make the sheep profitable, both for wool and mutton. Some are in favor of crossing with the long wool mutton sheep, while others think a cross with the French merino is beneficial. I cannot see any real and permanent improvement made in crossing the Spanish with either of the above breeds, as each breed is naturally adapted to certain points and conditions, and when put together, produce a breed partaking of the bad qualities of each, which will depart wider and wider from the good points of each breed by each remove. Many, by fair trial, have become convinced that they

have been humbugged, and are anxious to get back to their original standing with a good flock of Spanish sheep again. Incalculable mischief has been done in this country, and much more so in the east, by an attempt to improve the Spanish sheep by crossing with other breeds. The mischief is more apparent now than it was, and the time will come when the few who have breasted the popular delusion and have kept their flocks pure, will reap a rich reward, not only by the sale of their sheep, but in the thanks of the country. To such wool growers who have an inclination for sheep, combining both mutton and wool qualities, I would cite them to the Spanish Merino.—Wethers, when at a mature age, four and five years old, are very easily fattened, (and their mutton is not objectionable, even to the best lovers of the delicious meat) often bring when sold, from $3 to $5 after clipping, while their fleeces will bring from $3 to $4 each, making from $6 to $9 per head, which I think is a very fair remuneration to any one who wishes a sheep for wool and mutton combined. Such sheep will supply the demand, in a locality like ours, sufficiently.

Many wool dealers object to heavy fleeces, and recommend the wool grower to grow light fleeces. No buyer ought to find fault with a large bulky fleece of fine wool, because it is heavy. I think the objection is very frivolous indeed; for 9 lbs. in a bulky fleece of wool will not shrink as much as three fleeces weighing the same amount, because the first fleece is a thick set, lengthy staple, well protected against storms, and the rays of a heating sun, retaining the natural nutriment from the sheep's body, which renders the fibre less contractive, while on the other hand the three fleeces are very open while on the sheep, and are much exposed to the weather, becomes very contractive and is found, when cleansed, to full up, and is much less in quantity and very inferior in quality.

Much has been said about preparing our wool for market, more particularly in relation to sheep-washing. Throughout the more extensive wool-growing districts the question has been agitated and many have entered into combinations, and passed resolutions to dispense with the practice of washing sheep. But almost all combinations seem to fail; the manufacturers seem to exert a controlling influence by adopting the ⅓ shrinkage from all unwashed wools. The practice is a losing business to the wool-grower, much more so than a common brook washing; so he returns again to the practice of washing his sheep.

It appears to me that the manufacturer would be the gainer to purchase his stock of wool unwashed, as the system of brook washing is so unequal. One lot of wool may be washed very clean and done up in a clean and merchantable style, while a second lot may be half done, and the third lot is very much damaged by washing in a muddy pool of water. The same slovenly manner is followed by shearing and rolling up the fleeces on a dusty barn floor, or on a dusty spot of ground, rolling in sticks, straws, leaves, and every kind of filth that can be reached. Such lots of wool are sold generally within one or two cents, and many times as high as the very clean lot first mentioned. It is all sold under the head of washed wool, making an average lot of the whole; the former aids in selling the two latter lots. The wool-grower who washes his sheep and prepares his wool in a clean and merchantable order, does not receive the encouragement due by such a system; his nice lot of wool is sold under the "average lot system," from 10 to 15 cents less than its actual value to the manufacturer.

The practice of washing sheep is attended with many difficulties, a convenient place for washing may be far away, rendering it very injurious to drive a flock of sheep; then again it frequently happens to be a rainy time after washing, often being two or three weeks before the sheep will get dry, causing many diseases to have seated upon the constitution. Many more injuries might be mentioned, besides being a very barbarous practice to both man and beast. The question naturally arises: how shall we remedy the evil? Call the wool-growers and manufacturers together, and discuss the matter freely, and agree upon a just and true standard of difference between washed

and unwashed wools, and each and every one abide by the decision, and a reform will soon commence. Let every wool buyer purchase his stock of wool regardless of "making an average lot system," and I think it will tend to establish an uniform grade of wool, while it will very decidedly improve the condition of our wool for market. H. HEMENWAY.

WHITEWATER, Wis., April 10th, 1862.

Bad Effects of Grass on Colts.

When horses are turned out to grass in the spring of the year, the succulent nature of the food causes them to purge, often to great extent; this is considered by many persons a most desirable event—a great misconception. The herbage is overcharged with moisture and sap, of a crude, acrimonious nature, to such an extent that all cannot be taken up by the organs destined for the secretion of urine, or by the absorbent vessels of the body; the superfluous fluid, therefore, passes off through the intestines with the indigestible particles of food, and thus the water fæces are thrown off. Flatulent cholic or gripes is a frequent attendant. The system is deranged; but the mischief does not terminate here. If the purging is continued, a constitutional relaxation of the bowels is established, very debilitating to the animal, and often difficult to control. I am so decidedly opposed to unrestricted allowance of luxuriant grass to horses at any age, that nothing could induce me to give it to them. After the second year, hay should form a considerable portion of the daily food in summer to every animal intended for hunting or riding.

If a horse is supported entirely upon the grass which he collects in a rich pasture field, or upon that which may be cut and carried to him in his paddock, he must consume a much greater bulk than of hay in an equivalent time, to afford nourishment to the system. Grass being very full of sap and moisture, it is very rapidly digested, consequently the horse must be continually eating it. This distends the stomach and bowels, and the faculty of digestion is impaired, for the digestive powers require rest as well as other organs of the body, if they are to be preserved in perfect condition. By the custom of grazing, the muscular system is enfeebled, and fat is substituted. This may escape the notice of the superficial observers, who do not mark the distinction between the appearance of a fat and a muscular animal, who conceive, so that the bones are covered and the points are rounded, all that is requisite has been attained. But that is a very fallacious impression. Let any person who is skeptical on this point ride a horse in the summer who has just been taken from grass, along with another kept on hay and corn, at the moderate rate of seven or eight miles an hour; the grass-fed horse will sweat profusely, while the other will be perfectly dry. This proves that the one eating grass overbounds with fat and those portions of the blood which are destined to form that deposit.

Those who will advocate grazing will no doubt exclaim, "Oh, this is a test of condition, which is not required in young and growing animals." I beg to state that it is highly important, if the acme of condition is to be attained by animals of mature age, that the growth and gradual development of their frames should be composed of those healthy and vigorous elements upon which the structure of future condition can be raised. Animal substances are, to a very great extent, subservient to the nature and quality of the food with which the individuals are nourished. I believe farmers would find it much to their advantage if they were to consider this subject with reference to feeding cattle and sheep, so that they might select those kinds of food which abound with properties more conducive to the production of flesh than fat. There is no kind of food which the horse consumes which has not a tendency to deposit fat. It is a substance which must exist to a certain extent; but as it is muscular power, not a predisposition to adipose rotundity, which enhances the value of the animal, the reasons are obvious what guide should be taken in the selection of food.

I have on a former occasion hinted the propriety of bruising the oats, and I will now state my reasons for so doing. The first I will mention is economy. Three bushels of oats which have undergone that process are equivalent to four which have not, and the animals that consume them derive greater benefit.—Various schemes are adopted to induce horses to masticate their corn, all of which are ineffectual. Scattering them thinly over the surface of a spacious manger, mixing a handful of cut straw with each feed, and such like devices, will not cajole the animal to the performance of mastication. A horse that is disposed to bolt his corn, however carefully it may be spread along his manger, will soon learn to drive it into a heap with his nose, and collect as much with his lips as he thinks fit before he begins to masticate. Whatever food enters the stomach of any animal, and passes away in an indigested form, may be considered as so much dross or extraneous matter, which, not having afforded nutriment, is prejudicial to the creature which consumed it. A mistaken notion of economy is often the incentive to turning horses out in summer, to be entirely dependent upon grass for their support. A few remarks will surely dispel that error. Twenty-two bushels of oats—allowing one bushel per week from the 15th of May to the 16th of October—may be as the produce of half an acre of land, and half a ton of hay that of another half acre, although a ton and a half per acre is not more

than an average crop. It requires at least an acre of grass land to support a horse during the period above mentioned.—*Mark Lane Express.*

The Language of Animals.

"That animals have each a language of their own to one another," says James Hogg, (the Scottish "Ettrick Shepherd,") "there can be no doubt. I know a good deal of their language myself. I know by the voice of the raven when he has discovered one of my flock dead; I know also his prelude to the storm and to fine weather. The moor-fowls call one another from hill to hill. I learned to imitate their language so closely that I could have brought scores of them within the range of my shot of a morning. The black-cock has a call, too, which brings all his motly mates around him, but the female has no call. They are a set of subordinate beings, like the wives of nabobs. They dare not even incubate upon the same hill with their haughty lords. But the partridge and every mountain bird have a language to each other; and though rather circumscribed, it is perfectly understood, and as Wordsworth says 'not unknown to me.' The stupid and silly barn-door hen, when the falcon appears, can, by one single alarm note, make all her chickens hide in a moment. Every hen tells you when she has laid her egg; and lest it should not be well enough heard or understood, the cock lends the whole power of his lungs in divulging the important secret. The black-faced ewe, on the approach of a dog or a fox, utters a whistle through her nostrils which alarms all her comrades, and immediately puts them upon the look out. Not one of them will take another bite till they discover whence the danger is approaching. If the dog be with a man, sundry of them utter a bleat, which I well know, but cannot describe, and begin feeding again. If the dog is by himself, they are more afraid of him than of any other animal, and then you will again hear the whistle repeated through the whole glen.

But the acuteness of the sheep's ear surpasses all things in nature that I know of. A ewe will distinguish her own lamb's bleat among a hundred lambs, all bleating at the same time, and making a noise. Besides the distinguishment of voice is perfectly reciprocal between the ewe and the lamb, who, amid the deafening sound, run to meet one another. There are few things which have ever amused me more than a sheep-shearing, and the sport continues the whole day. We put the flock into the fold, set all the lambs on the hill, and then send out the ewes to them as they are shorn. The moment that a lamb hears its dam's voice, it rushes from the crowd to meet her, but instead of finding the rough well clad mamma which it left an hour or a few hours ago, it meets a poor naked shivering—a most deplorable looking creature. It wheels about, and uttering a loud, tremulous bleat of perfect despair, flies from the frightful vision. The mother's voice arrests its flight—it returns, flies, and returns again, generally ten or a dozen times, before the recognition is perfect."

Horse Census.—The following curious account is given in Appleton's Cyclopedia, of the number of horses in the various parts of the world:—"The general estimate has been eight to ten horses in Europe for every hundred inhabitants. Denmark has forty-five horses to every hundred inhabitants, which is more than any other European country. Great Britain and Ireland have 2,500,000 horses; France, 3,000,000; Austrian Empire, exclusive of Italy, 2,600,000; Russia, 3,500,000. The United States have 5,000,000.

THE POULTERER.

A Few Words on Hatching and Rearing Poultry.

I would recommend all parties desirous of procuring a superior breed of birds, at the least possible expense, to obtain two or three barn-door hens about to sit, then buy from some neighbor, having the desired breed, fresh laid eggs, allowing from eleven to thirteen to each hen, according to size; should more than thirteen eggs be placed under a hen, and the weather prove cold, the chances are that one-third of the clutch, at least, are spoiled. If an out-house or cellar can be used for the nest-house, so much the better, provided the floor is slightly moist. In the darkest corner place a good handful of oat-straw; and to better form a nest and prevent the eggs rolling out when the hen moves, a row of bricks all around. In such a place the chickens will shell out strong and healthy. Many persons may wonder at my recommending a moist place; but let it be remembered, if you leave a hen to herself, she will choose for the brooding-place a spot under a bed of nettles, a gap in a hedge, inside a stack of faggots, or similar damp places; all being places nature has pointed out as the most suitable, and apparently for this reason: the germ of the egg floats uppermost within and against the shell, in order that it may meet the genial warmth of the breast of the fowl. We must, therefore, in hatching, apply most warmth to that part only; the egg being supplied with only a limited quantity of moisture, is thus arranged to prevent evaporation from a large surface, as the egg is only very warm at the part in contact with the fowl, until the blood-searching nourishment for the embryo, have surrounded the inner surface of the shell, when the whole egg becomes gradually warm, and eventually of an equal temperature.—*Cottage Gardener.*

THE BEE KEEPER.

Spring Management of Bees.

1. If your bees have been wintered in the cellar or any place excluded from the light, they must be set out in a warm day so that they can fly readily, for they will come out, if they can get out, as soon as they are brought to the light. If the weather is unfavorable and chilly, many of the bees will be lost.

2. Set your hives where they are intended to stand during the season.

3. Close the bottom board and let them have ingress and egress through the holes in front, unless it is a numerous family. This will prevent robbing, and help keep the necessary heat in the hive to bring forward their brood early in the season.

4. Let the bees have all the light and sun that is convenient till after swarming. Keep them covered nights and in bad weather, unless the weather is so warm that there is danger of melting them down.

5. When the bees begin to lay out and the hive is crowded and the weather warm, lower the bottom board to your liking, or raise the hive as the case may be.

6. Keep your bees as warm as possible in the early part of the season.

7. Cover up the frames tight with the box, bottom up, or board, to keep the heat from escaping in the spring.

8. Give air according to the weather and number of bees by the use of the bottom board.

9. The hive should be set in some convenient place near the house so that they can be watched.

10. They should be sheltered from the cold north and west winds of April and May, either by fence, wall or hill.

11. The hive should be set near the earth, by this means they escape in some measure the winds, and when fixed as they should be, saves the lives of many bees. In the early part of the season when they come home near evening, chilled and benumbed, with a heavy load, they attempt to enter the hive, if they fail and drop to the earth, they generally perish. Set the hive from 4 to 8 inches from the hive bench or bottom board to the earth, and if the bees fail to enter the hive they will drop on the board or ground and crawl up into the hive, being unable to rise. Enough may be saved in this way from a few stocks to make a good swarm.

12. *Robbing.*—This generally takes place on a warm day when they have little else to do, and it is the weak families that are robbed. Keep such hives close to the bottom board as directed, and, if necessary, stop all the holes in front but one, leaving only room for one bee to pass and repass.

13. *Remedy.*—Remove the attacked swarm to the cellar, or some dark place, until two or three warm days pass and the robbers find other business, perhaps by attacking other swarms that stood next the one that was removed; if so, manage them in the same way, until the robbers abandon their plunder or search. The morning is the time to set them in when the bees are all in the hive. Another, close the bottom board and remove them a mile or more to some neighbor's. Another, blow tobacco smoke among their comb and the robbers will soon disperse. Another, close the bottom board when the attack is commenced, leaving a little space around for air, let them stand a day or two or more, giving them their liberty at night, and water and feed them if necessary. WALTER M. LEE.

ROSENDALE, WIS.

TRANSPORTING BEES.—A correspondent of the *N. E. Farmer* gives the following directions for transporting bees:

"Spread down a sheet and set the hive on it; then bring up the corners and tie over the top, or invert the hive, and put over the bottom a piece of muslin eighteen inches square, fastened at the corners with carpet tacks. A wagon with elliptic springs is best for conveying them. In all cases, the common box hive should be bottom up, to avoid breaking combs. When moved late in the season, they should be set several feet apart."

Calendar for May.

As the weather becomes more genial, the increase of bees in the colonies is exceedingly rapid, and drones, if they have not previously made their appearance, begin to issue from the hives. In some locations, the bees will now gather much honey, and it will often be advisable to give them access to the spare honey receptacles;* but in some seasons and locations, either from long and cold storms, or a deficiency of forage, stocks not well supplied with honey will exhaust their stores, and perish, unless they are fed. In favorable seasons, swarms may be expected in this month, even in the Northern States. These May swarms often issue near the close of the blossoming of fruit-trees, and just before the later supplies of forage, and if the weather becomes suddenly unfavorable, may starve, unless they are fed. Even if there is no danger of this, they will make so little progress in comb-building and breeding, when food is scarce, as to be surpassed by much later swarms. The Apiarian should have hives in readiness to receive new swarms, however early they may issue, or be formed. If new colonies are to be made by artificial processes, a seasonable supply of queens should be reared.—LANGSTROTH.

* If natural swarms are wanted, the bees should not be allowed to occupy too much surplus storage-room.

MR. HOYT:—I give you a word of experience in regard to bees, which may be of interest to the readers of the FARMER. It is this:

Bees dislike ashes, so much so, that they will leave their hive when it is placed near an ash heap. Respectfully yours, L. A. JENKINS.

Langstroth's Hive in Wisconsin.

A correspondent, near Madison, enquires: Is there any person near Madison, who has had experience in the use of the Langstroth Hive? I tried the experiment of moveable frames, last year, made of the dimensions recommended by Quimby, but failed to reap the advantage sought, in the greater facility for handling the bees, from the difficulty of making them build their combs straight enough to allow the frames to be withdrawn without injury to or breaking the comb.

The agent for the sale of the rights of Langstroth's Hive, would benefit himself, undoubtedly, by placing one of his Hives where it could be inspected by those interested in such things. Say, in the rooms of the Agricultural Society, or the office of the FARMER. Will you suggest such a course? Yours, S.

THE HORTICULTURIST.

A. G. HANFORD, : : CORRESPONDING EDITOR

Doolittle's Improved Black Cap Raspberry.

"Remember the fate of the Servant who hid his Talent in a Napkin. Let your Light so Shine," &c.

PROFESSOR:—Being a close reader of the FARMER, the above lines did not escape my notice.

I am not afflicted with the scribbling mania; am not conscious of a talent in a napkin or elsewhere which needs an airing; that I have a "light" which would shine beyond the little nook where I have sought a shelter from the cares of a life which, if humble, has been somewhat checkered and stormy. Yet I am a long way from being an idle spectator of the varied and important interests which find so able an advocacy in the FARMER, and carefully follow every thought traced by Editor or Correspondent. As thought comes in collision with thought, I am often "impressed" to speak, and were I face to face with the writers, and no "chiel" at hand taking notes, should feel like expressing myself with freedom. And if you let me into the ring, and some pugnacious knight does not unhorse me in the start, I may venture my "talent" in the open air.

As a preliminary, I wish to say, I have no enemy to punish or friend to reward; no axe to grind upon your most excellent grindstone; no advertising scheme to fire off under the covert of "correspondence." That I am engaged in fruit-growing, and have thus far been quite successful, is true; that I have certain choice things for sale, also is true; but that no reader of the FARMER shall look for a "masked battery" behind my signature, I shall enjoin the usual rule of Editorial faith, no one, not even the "devil" know whence, or by whom, this hand write. Selah.

Our mutual friend, Willey, has crossed blades with that other mutual friend, Hanford, on the merits of the "Lawton." I am impressed to offer a thought.

Setting of a tree or shrub, however good in quality or kind, is not always a success. The best will not return good, for the evil of inhu-

man treatment, while tender varieties will, as a general rule, be turned "out to grass" by the masses. My next neighbor (this is confidential!) has an orchard of nine year's growth, but no apples. The few surviving trees are the scarred veterans of many a struggle with plow, and harrow, and cattle, and looks as if afflicted with all the ills which an apple tree is heir to. The owner thereof, does not believe that it is of any use to put out apple trees in the West! He put out Strawberries, and raises—grass; Currants, and raises stunted stubs; Shade Trees, and they died.

This man is a representative of a class—the vast majority of farmers, I am sorry to say. Can such men succeed with the "Lawton," "Brinkle's Orange," "Catawissa," etc.? Verily not. For if the common currant can scarcely survive their acquaintance, how can the others escape? One friend of this stamp, has a Grape which has bravely battled for life *twenty-two years*, and he concludes that its "no use to plant grapes!" The vine was never pruned, and has stood all these years in a heavy sward, never prepared with mulch, fork or spade.

Now, an Amateur like our friend Hanford, or the—ahem!—the writer, can raise the "Lawton," large, luscious, bountifully, but the masses will not. Ninety-nine out of the one hundred attempts, have been failures, and so will continue to be. So sure am I of this, that I usually discourage its purchase in my own grounds. So with the "Brinkle's Orange," a raspberry fit for gods.

But the people are not without a berry—a commoner—a better berry than they deserve. Every one in Wisconsin, owning land, might have it in abundance,—if some benevolent neighbor would put out and tend it, for him. I mean Doolittle's Improved Black Cap. It is as hardy as the oak, and wonderfully productive. And when a person speaks lightly of its flavor, I am "in arms" and ready to—ask him if there are many berries in this world, more grateful to the taste than a well bred "full blood" Black Cap? Show me a person who does not love it—that peculiar flavor which awakens memories of childhood and tramps in the slashings—and I will show him a person who—does.

From one acre of plants, of one year's growth, I last season picked *twenty-five bushels* of berries, and sold them at my gate. From the second picking, I measured berries three quarters of an inch in diam—well, what's the use in telling a story which you are assured, will not find a market?

But enough. I have said what I designed to say when I placed my "light" upon the table. The man who cannot raise the Black Cap, deserves to eat hog and shake with the "ager" without the benefit of quinine. We wean our babies on berries, and *stockier* scions of a—nobler stock?—are not in all Badgerdom.

Come and see us, Prof., and we will vaccinate you with a Black Cap short-cake, the taste of the berries thereof, as delicious as when taken from the bush.

With thanks, I return my "talent" to the napkin. Your friend, IRONSIDES.

AT HOME.

[Verily, friend, let thy light shine again upon our table.—ED.]

Plant Potting.

To grow plants well in pots is no mean criterion of the cultivator's skill. At the exhibitions of our leading horticultural societies, fine specimens of plant culture are brought forward, but in ordinary practice, well managed plants are the exception rather than the rule.

The soil for potting is an important matter in this connection. What is termed a turfy-loam, is the basis of all composts for growing plants. Turfy-loam is a soil formed of decomposed turves that have been procured from an old pasture field; these turves should be thrown into a heap and watered with water in which a portion of potash has been dissolved, if rapid decay of the fibre is important. It is not desirable to reduce the vegetation to the last degree of decomposition; the fibry matter which it contains is the main element of growth; so that active vegetation in the grasses being destroyed it is in fit condition for use.

In selecting these turves, preference should be given to old grass lands, that have for many years been undisturbed; the grass roots will have formed a thick mat of vegetable matter three or four inches in thickness; it should not be cut deeper, and if it will bear to be thrown about without breaking, it will evidence a sub-

stance equal to the famed *peat* of European gardens. These turves are valuable just in proportion to the amount of fibrous matter they contain, and for all purposes of plant growing are superior to any combination of soils and manures that can be formed. Its open and porous character renders it capable of producing as well as absorbing a great amount of plant food. When water is given, it passes freely through the pores, retaining much moisture in suspension, lessens the repetitions of the watering pot, and the nutritious elements are not leached out by constant watering. It is now well known, that in a turfy-soil, such as the above, all kinds of greenhouse plants can be grown to great perfection. Plants grown in it are characterized by the deep green, healthy hue of their foliage, the early and well-ripened wood, and a profusion of large and highly-colored flowers. This proceeds from the circumstance that there is no excessive stimulus, at any period of the plant's growth; hence, its development is regular—one of the most important points in all kinds of culture; the plant is not excited into a luxuriant growth of branches and foliage when young, as frequently occurs when the soil is rendered rich with nitrogenous mixtures, which retards maturation of the wood, induces disease, and is unfavorable to the production of flowers and fruit.

In preparing this soil for potting it should not be broken up too finely, and by using such correctives as sand, charcoal, &c., it can be regulated to suit any description of plant. Plants that are to remain for years without removal, should be potted in a soil well supplied with these correctives, so that adhesion in the soil after the vegetable matter has become decayed may, to some extent, be prevented.—Weak growing plants will also require more than those that are robust.

The preparation of the pots as regards drainage is of much moment, and there is some diversity of opinion as to the amount of drainage materials necessary. Some witers assert that it is worse than useless to place an inch or two of drainage in the bottom of pots, as it allows the water to pass off too rapidly, and entails unnecessary labor in keeping a sufficiency of moisture in the soil. At first view this reasoning appears plausible; it is, nevertheless, a fact that well-drained pots and a porous soil will contain a more uniform and lasting supply of moisture, than when these conditions are reversed, because air is thus enabled to penetrate and hold water in suspension. It is an erroneous supposition, perhaps too prevalent, that draining in reality renders a soil dry, so far as a complete abstraction of moisture is understood. Drains only carry away the water that is not retained by absorption, which otherwise would prove injurious. When pots are imperfectly drained, the soil shrinks in drying, and leaves the side of the pot, and when water is afterwards applied it runs down between the soil and the pot, without penetrating to the roots of the plant. On the other hand, when water is applied on the surface of properly drained soil, it immediately percolates freely throughout the mass, and when it has absorbed all that it will retain, the surplus passes away by the drainage. Both science and practice confirm the fact, that good drainage is the foundation for good cultivation.

The materials most generally *used* for pot drainage are technically termed *crocks*, being pieces of broken pots that are otherwise useless. Those who are so fortunate to have no broken or cracked pots, will find a good substitute in oyster shells and broken charcoal, bones, stones, bricks, &c. The oyster shell is laid over the bottom, and all the broken material laid over it as desired; a small piece of perforated zinc laid over the bottom hole, is a good preventive against the ingress of worms; which are sometimes troublesome when the plants are set out of doors. The amount of drainage necessary, will, of course, vary with the size of the pot, and it will also be influenced by the kind of the plant. An average depth of one and a half inches to a six inch pot, will be sufficient for permanent plants.

Previous to removing a plant from one pot to another, the soil should be allowed to become rather dry, which facilitates the arranging of roots and handling of the plant. When the plant is turned out of the pot, and the roots appear thickly matted and interwoven, the old drainage should be carefully removed, and the roots gently disintegrated, so that they may be spread into the fresh soil; this treatment is more particularly applicable to Azaleas, Camellias, Epacrises, and similar plants that may not have been very recently disturbed. Young plants of soft, free growth, as Fuchsias, Geraniums, Lantanas, &c., should be re-potted as soon as the roots reach the sides of the pots, or at least before they become numerous and spreading, so that the plant may receive no sudden check in its growth. Many plants are kept comparatively dormant in winter, and the old wood cut down in spring to encourage a new growth; of such are Roses, Fuchsias, Geraniums, Clerodendrons, &c. These require to be re-potted as soon as growth commences, and in doing so the old ball of soil around the roots, should be completely broken up, and a few of the strongest roots pruned back, to admit of being placed in the same or in a smaller pot, by this means a plant may receive fresh soil periodically, without using pots disproportionately large, as compared with the size of the plant.

Another point worthy of attention is to use the soil for potting rather dry, and press it firmly in the pot, more particularly if placing fresh soil around an old ball of earth, which, unless very tightly packed, will allow a passage for water, leaving the roots dry. If nothing harder than the fingers are used, there will be

little danger of pressing the soil too firmly, if all has been in proper condition.

After a plant has been re-potted it should receive a good watering at once, and be placed in a moist atmosphere for a few days afterwards, until growth is again established.—*Farmer and Gardener.*

"Progressive Horticulture."

EDITOR WIS. FARMER,—*Dear Sir:*—If your space for hasty communications will allow the room, I wish to say, to close the thing up with J. C. P., that I have no doubt our friend A. G. H., your able contributor, is laid under lasting obligations for the *volunteer* criticism on an article sent you from my friend in the March No. of your FARMER. I forgive the order of literary fame that is so ready and will—ing to help out of *fancied* disparaging of the correctness of our friend's "Low headed trees the best winter protection."

My time will not allow me now to say but a few words in this connection, and as you advertise, you desire the ideas compressed as much as possible, you will pardon my inexperience in so doing. I challenge J. C. P. to quote one full paragraph of my article in the March No., and *prove* the incorrectness of the main principles therein contained. J. C. P. says, "Earthing up in autumn, entirely covers the trunk, and hence the winter's sun, wind and frost are harmless." Is that *proving* that "low headed trees are the best winter protection?" Doubtless his great experience leads him to think so, having lived in Wisconsin *seventeen* years!

No intelligent reader of your paper but would understand that my article in the March No. referred to trees for transplanting, consequently the low headed tree has had the cutting back either by winter or the knife, in the majority of cases. I *deny* that the cutting back of ¼ to ½ of the last season's growth at planting is *severe pruning* in spring at transplanting. That is the usual practice among well informed planters. That subject being new and foreign to matters in consideration. I deny that at the time of planting, the "shortening in is one of the *first demands* of the tree," rather let me say one of *the first* demands of the tree at planting is to be taken up with its *roots unimpaired.* But as in all cases of careless and hurried digging of trees, the roots have been largely mutilated and diminished, the top must be diminished in proportion; not to an unlimited extent—rather discard the tree altogether.

"Progressive Horticulture"—the idea of planting grape vines on "crown of the highest hills" in Wisconsin, is to me, really a novel idea. My limited experience here in Wisconsin, (having only been here *nineteen years* the 22d day of this month, one thousand eight hundred and sixty-two), has led me to believe sheltered situations really the "surest" place for setting the *table* varieties of grapes. The idea of training grape vines on the *south side* of stone and brick buildings, and on the west side, and on the top of the bleak hills of Wisconsin,—all these being "sure and excellent,"—really demonstrates great experience; "so it seems to me."

Your valuable paper, doubtless, is too full to give all the explanations in regard to the "*free circulation of air essential to success*" in all these situations. "The grape is most particular in its choice of location." Well, it rather seems to me that you designed to make a grand hit, Mr. Editor, in requesting the "pith" in communications. Will J. C. P. point out the paragraph in my note in the March No. recommending high top trees? If he cannot do that, if he will come and see me at my nursery, I will point out to him some as good low headed *fruit trees, treated as I have recommended,* as he can find west of Buffalo, and if he does not say so, then I will show him my nursery generally; treat him to some of my pieplant and currant wine; go with him to the cars and invite him to call again, if he ever comes within 100 miles. Yours, H. A. CONGAR.

WHITEWATER, Wis., 1862.

HOW I RAISE PUMPKINS.—Take the poorest land in the corn field; plow deep; mark 12 feet each way; dig holes 1½ feet deep; fill with well-rotted manure; cover with earth 12 inches; then plant. When they begin to run, thin

out, so that but 2 or 3 remain in a hill. The 25th of May is early enough to plant. One acre cultivated in this way, will produce more than ten acres with corn. Last season I had 31 pumpkins from one sprout—averaging 20 lbs. each, or 620 lbs. from the vine! Try it farmers. T. S. COLTON.

PALMYRA, April 6, 1862.

The "Lawton Blackberry"—its Value.

The Lawton Blackberry, "cemented in sugar," has so sweetened the hopes, if not the pockets of some fruit growers, that it's almost too bitter a pill to swallow, the idea of giving its culture up. We wrote our little "say" for the March No. of the FARMER in much haste, and did not add quite all we wished to, intending to let the subject drop; but to our surprise, and *un*solicited, a "bit" of testimony has fallen in our way which is too valuable for the Northwest to lose—and though it's a hard "mite" to mete out to my fellow men, with hundreds of the plants to sell,—yet it's my bounden duty, as of every other horticulturist in the State, to try to direct aright or not at all. We regret that the letter referred to above from Col. Crocker, was marked "private," else we would give it to the readers of the FARMER entire; but having the fear of a reprimand, we venture one or two extracts. In a note added to the same he says, "You may use my name as concurring with you in your estimate of the Lawton Blackberry." After eight years experience with the Lawton, Col. C. says, "Some years I have thought well of the fruit, and recommended its cultivation, other years I have thought otherwise, and upon the whole, have come to the conclusion that its culture will *not pay:* (his own italicism,) again, * * "the flavor is inferior to the wild blackberry, which is abundant and cheap every year," * * * "my bed did well last year in every respect but flavor," "I dug it up last fall and gave or threw away all the plants;" thinks in a more favored climate it might be an acquisition, but upon the "lake shore it has proven a *failure.*" Presto! what testimony from plaintiff's own witness. We have already expressed our opinion of its non-success as a plant for general planting. We had hopes of that portion of the State adjoining the lake, but it seems that even here the plants are "given or thrown away," and their culture abandoned as "not paying," and that too with "*five dollars per bushel*" staring them in the face, less than one hundred miles south of them, where their corn crop, with less than half the given number of bushels to the acre, is worth at this writing, but 24¼ cts. per bushel. It is almost fallacy to talk about the plants being "hardy." With the utmost care we know of but few men who have been successful in wintering them without the loss of the tops, even with straw or earth protection. That the roots are "hardy," and we may add, a great nuisance to any amateur, is true, as any one will bear witness who has ever been so *un*fortunate as to allow any planted on his grounds. Indeed, they are worse than "Canada thistles" to exterminate. So that we know that Col. C. has not yet seen the last of his Lawtons, but contrary, will have a triple stock to "give away" the coming fall, perhaps be able to supply some of the Eastern or "Ohio establishments" cheaper even than they can grow them for the Wisconsin market.

There is a little stricture upon the press we wish here to throw in: beware of "grinding your own axes." Says a brother nurseryman in the writer's hearing, to a gentleman from St. Paul, "is n't that a queer communication upon the Lawton, for a man to write who expects to sell —— dollars worth of plants this spring?" To which of course (in this case) the St. Paul man nodded assent, and we thought whose grindstone would wear the longest; but the point is here precisely, condensely expressed: to "grind not that ye be not ground." Can't a nurseryman condemn what he has for sale or extol it either and be honest? But "what's in it?" Oh ye little "fruit gods," how you flutter, go buzzing, buzzing away, as though my goose quill had scratched up a hornet's nest. But tell me ye wise ones, whose "cow did my ox goad?" and under which rib? Certainly the "Lawton is getting a prominence" beyond

anything we had anticipated, and we would now that the "rappings" of some of those departed "good children," (Lawtons,) might chant a requiem to their loved friends, who are still lingering about their burial. Not that we wish any one might see ghosts in so rampant, prickly and incontrollable a form as the Lawton is, but that our friend might get his eyes scratched open, and then be able to see an instance or two in which, under good treatment, like unto that which Col. C. has given his plants, it has proven *unsatisfactory*, "not paying," and thus *discarded, even as Col. C.'s have been*, for reasons in extracts above.

Our friend seems surprised, or struck with a new idea at a "blackberry belt." Wonder if he ever heard of a Peach belt way down South, or an Apple belt anywhere, even around the crown of "Woodside" hill, where the Spitzenburgs and Greenings do so well that he is "almost persuaded," now that they are on the anxious seat, to recommend them,—(we don't say he has)—we *looked* for the "Blackberry belt" around and in the neighborhood of this hill, but failed to find it; nor has testimony yet been produced, showing to the contrary. Query: Is "Woodside" within the aforesaid "belt?"

Ye "fruit gods!" why don't you bring on your evidence, outside of the imaginary belt, which is already in the "marching" order of the "retreating" sort; is now *confined* to a close proximity to the lake at Waukegan (will jump in shortly.) At Racine, Dr. Ozanne has had "marvellous" luck; after *eight years* trial and enthusiasm, he has grown *one crop* of the "largest kind of berries." Press forward, ye immortals, you have a calling. L. P. Chandler, after several years trial and protection, has never fruited it. J. T. Stevens discards it as tender with protection, and "decidedly unfit for an amateur, its proclivities to spread and sucker are very objectionable" Dr. Hobbins is of the same opinion. Mr. Clark "is of the opinion that in a leaf mold, where the wild berry grows, the Lawton may succeed, but *not on a prairie soil.*" Robert Douglass, of Waukegan, last Dec. in Chicago said, "I think they will *not do well on black soil.*" And so we might add testimony of careful cultivators, amateurs who pride themselves upon having a little at least, if not much, of those "home comforts," * "gathered fresh for every meal" * * *when they can*, and not "if they will;" but it's unnecessary, the "blackberry belt" is already *retreating* plenty fast enough, and will soon be within the Southern dominions, unless perchance, it's deemed a rebel and fired upon ere it starts; but hold! it's already been "voted" unconstitutional and out of *place* by a majority of a Missouri Fruit Grower's Association. "Where, oh where, shall I rest my thorny, unprofitable bed." Help a "divinely good child" from the regions of "humbugs."

O. S. WILLEY.

MADISON, WIS.

MECHANICAL & COMMERCIAL.

Something about Silk.

We find a leading article in *Hunt's Merchants' Magazine*, for April, upon the subject of silk. We have extracted somewhat copiously from its pages, believing the subject to be one of interest, to the readers of the FARMER:

The first people to discover the capabilities of the silk worm and its cocoon, were the Chinese. Whatever we may think of the intellects of the Celestials, it is certain that where tiresome, toilsome patience over detailed minutiæ is required, they show themselves equal to the occasion. They have enormous indefatigability over there, beyond the Great Wall. When Mr. Taurus (Johannes) sent them, a few years ago, a little present of the finest cambric needles England could make, with the popular Hornerism attached, "See, what a good boy am I!" —our transmural brethren returned them with the compliments of the season, and with eyes bored through the points. And this is no more than a fair specimen of their skill in all microscopic arts; they like them, and excel in them. They like to put their eyes out over grotesque embroideries; they like to put a thousand strokes upon a half inch of carving, where ten would do as well; they like to prepare hundreds of thousands of pounds of tea, where every leaf is picked separately, rolled by itself, and packed one at a time.

The extreme laboriousness of the whole silk process in those remote days, when there were no machines but fingers, would have dismayed any nation but one where the men were almost as numerous as the worms, and could live on

nearly as little. For ever so many centuries, eight or nine, China monopolized the entire silk culture and trade, selling her products at an immense price, and preserving great secrecy with regard to the whole process. The silk was sent, with other articles of oriental manufacture, in great caravans of loaded camels, across the vast waste of country which stretched between China and Persia; from there to Constantinople, and thence to Rome. The expense of transporting it across this weary length of land by these slow-travelling creatures, and the original cost of it in China, combined to make it of enormous value by the time it arrived at Rome, and for a long time it was considered to be of the same worth as gold, and was sold weight for weight. The Romans knew nothing of its origin, supposing it to be grown from some rare shrub, as cotton or flax grow, but they delighted in it as a new extravagance, and as a novel and costly insignia of rank. The passion for it grew so rapidly, that the emperor Tiberius, passed a law forbidding any man to wear so essentially feminine a fabric. This checked the demand for it for a time; but when, in the third century after Christ, Heliogabalus, weakest and wickedest of noodles, was made Emperor of Rome, he revived every foolish and criminal custom of past times, besides inventing many new ones. Among the most absurd of the latter, was the Senate of Fashion, to which the patrician ladies of Rome were elected, for the discussion of dress, deportment, ancient etiquette and other solemn topics. The article which Tiberius had prohibited, was pronounced, by this grave tribunal, to be highly decorous and becoming, and Heliogabalus himself was the first to sustain the judgment of the court by appearing in an entire suit of silk. The court followed suit, literally, and the custom soon became universal. The increased demand stimulated a greater supply, and the prices of it gradually lessened.

After a while, somewhere in the sixth century, two Persian monks, who had resided a long time in China, and had made themselves thoroughly conversant with the whole art of silk culture, offered, in consideration of certain gifts and promises from the Emperor Justinian, to bring the eggs of the silkworm to Constantinople, and to personally superintend their domestic affairs. The attempt was successful, and so this new and very important branch of industry was established in Europe, although within very narrow limits. Western Europe was then groping its way through the murkiest part of the dark ages. Charlemagne, whom Hallam compares to a light-house upon a rock in the midst of a dark and seething sea, was not yet erected, much less trimmed and lit.—England had no existence, and the Saxon heptarchs ate and sqabbled, conquered each other, and were conquered in turn, all in barbaric confusion.

The climate of Greece was found to be extremely favorable to the raising of silkworms, and Athens, Corinth and Thebes, were soon renowned for their success in this pursuit. Where Homer had sung, and Phidias had chiseled, and Leonidas had fought, and Paul had preached, where Mrs. Xantippe had been always "on a rampage," and the benign Socrates had shrugged his shoulders resignedly,—there these new heroes were installed.

But the poor insects were destined to a violent transfer from their philosophic abodes, and the king of Sicily, Roger II., was the ruthless invader. He sacked the cities and bagged the worms, and deposited them, with numbers of their masters and mistresses, in his own capital, Palermo.

Here the Greek exiles carried on the culture, by the king's command, and Sicily became a new centre of progress, from which the manufacture slowly extended into other European countries, although the cultivation was, as yet, nowhere attempted but in Spain.

Soon after this, when Henry of Navarre was monarch of France, a Frenchman by the name of De Serres, wrote an enthusiastic treatise upon silk culture, which excited much attention. Many people in the vicinity of Paris planted mulberry trees and attempted silk-growing. If the silk fanciers had been so prudent as to secure the services of a professor of entomology, all things might have gone smoothly; as it was, they were ignorant of the management of both trees and worms. The mulberry is subject to many diseases, from the unnatural way in which it is stripped of its foliage. Rust, mildew and honey-dew assail it in turn; the leaves which are attacked by the two former must be thrown away; those covered by honey-dew may be used after being carefully washed and dried. With a sublime unconsciousness of all this, they gathered the leaves indiscriminately, which gave the Bombyxes very bad stomach-aches indeed, and often ended in the early death of the most promising specimens; besides this, they forgot to parboil the cocoon till a few minutes too late; the moth ate its way out, the thread was cut and the silk ruined. In short, all their zeal, and all their efforts, resulted in a huge amount of grubs, moths, eggs, empty cocoons and no silk. They tore up the mulberry trees in a rage, and the worms perished by starvation. This was an especial triumph for Sully, Henry's minister, for he loathed luxury and all its appurtenances, and had used his whole influence among the people to excite their discontent, and to crush the enterprise. Not so with the king; he was clever enough to see that if the scheme were a practical one, France would secure a certain and always increasing source of income. After a long consultation with De Serres, he resolved to test the matter again, and went so far as to uproot the royal orangery and stock it with mulberry trees, for

the purpose of showing the nation his confidence in the success of the plan. So high an example could not but be followed. Experience had proved a thorough teacher, and the process began anew and was carried on successfully.

Henry was as wise in religious as in political matters, and about this time he granted liberty of conscience to all his protestant subjects by the well known edict of Nantes. The majority of these protestants were found among the artisans and mechanics of France; great numbers of them were silk weavers; and the fact, that after all their persecution they were guaranteed an unmolested life, infused a vigor and enthusiasm into their pursuits, which could never have been felt by men who were living under a public ban, or carrying a death secret in their hearts. The silk manufacture increased very rapidly, and so did the protestants. Within a century after the first planting of the mulberry trees, there were eighteen thousand looms in operation in Lyons alone. But alas, Louis the Fourteenth was now on the throne; —burdened with the knowledge that he fully deserved purgatory, and stimulated by the fear of being sent there, he could think of no other way so sure to atone for a myriad of court vices, as a good sharp persecution of heretics. Mass was good, but Massacre was better.

Four hundred thousand protestants poured out their life-blood to wash away the sins of the *Grand Monarque;* the sacrifice was sufficient, indeed it was more than enough; and to prevent a waste of so much merit, and bring forward his own end of the account, the king permitted himself a few small extra peccadilloes for the rest of his life. How the balance struck at last, is an item not to be found in the records of earth.

Four hundred thousand other protestants escaped, and of these, eighty thousand skillful workmen took refuge in England. The entire commerce of France was crippled, many of her trades were crushed out of existence, more than half of her silk weavers were gone, and the looms of Lyons had decreased to four thousand. After having deliberately parted with a large piece of her back-bone, France felt the need of the discarded vertebræ, and would fain have had it back again, but it was too late. The most solemn and brilliant promises could not induce the best artisans to return. England reaped a grand harvest in reward for her hospitality towards the exiles; many pursuits, hitherto unknown in Great Britain, were introduced and carried on by them, and the silk manufacture in particular, which up to that time had been extremely crude and imperfect, was brought to the highest perfection.

Nearly thirty thousand refugees settled in Spitalfields or thereabouts, the majority of whom were weavers, penniless and homeless; they were at first relieved by an appropriation of Parliament, but their skill and diligence soon placed them quite beyond all need of assistance; owing to them the silk trade prospered exceedingly, and by the year 1713 more than 300,000 persons maintained themselves by it. The children's children of these weavers still live where their forefathers established themselves. It is a weary life; all the bright hours of the day are spent in close application to the loom, for he must make silk while the sun shines; there is constant stooping of the back, constant moving of the arms, constant watching with the eyes, and even the feet must do their share of work.

The weaver grows pallid, and haggard, and bent, and his wife and children wear their lives away over the finer and smaller silk fabrications, tassels and gimps, and buttons, netted fringe and twisted cords.

In Lyons their life is, if possible, harder still. There, the ninety thousand weavers work from four in the morning till nine at night, crowded into great factories, that "resemble bee-hives, with their tiers of cells." Each cell has a window, and each window lights a machine. Yet, toilsome as these lives are, and striking as is the contrast between the sallow, crooked artisan, and the flashing, brilliant-hued fabrics into which he weaves his health and strength and life, their condition is a hundred times better than it was forty years ago. Until that time the silk looms were very complicated, and not only was the weaver himself compelled to ten-fold exertion, but their numerous cords and pedals required constant guidance. These must be managed by young children, under-grown women, or stunted boys. Whatever was very small, and very nimble, and very uncomplaining, would answer. All day long, through weary, weary hours, the same distorted attitude must be retained; they grew blanched in the heavy shadow of the loom; they breathed a death-giving atmosphere, composed of exhalations of machinery-oil, and feathery floating silk fuzz; they crouched, in painful, cramped positions, till nature gave up her struggle for straightness, and lay aggrieved and ashamed under many a crook and twist, that soon fastened the victim to a bed of sickness, or, more kindly, laid his body of pain in the grave. What philanthropists had sighed over in vain, was at last attained by a poor artisan, Joseph Marie Jacquard, "the child of the people, the child of the loom." He labored long and faithfully in silence; but his toil was crowned at last with success. A certain change in the form of the loom, a certain ingenious way of securing the threads, cancelled the need of more than one attendant for each machine, and greatly lightened the labors of that one. Jacquard was diffident and retiring, and had no knowledge of the means of securing public attention or favor; but he showed the result of his invention to one friend and another, and the piece of work passed as a curiosity from hand

to hand, till at last it arrived at Paris. In the mean time Jacquard, busy about other things, had almost forgotten his own invention, and the new loom had long lain in a corner of his shop, broken and disordered, when suddenly he was summoned before the prefect of Lyons, and told to exhibit his machine. He demanded three weeks time to restore it to a working condition again, and, on the appointed day, presented himself and his loom for the prefect's inspection. This amiable functionary was delighted with it, more especially because he was able himself to continue the web which the weaver had set up. The machine was sent to Paris, and by the next mail came an order for the presence of the inventor. Governments have an untender way of conferring benefits; without a word of explanation, Jacquard was seized, in a maze of terror, carried post-haste to Paris, under the escort of a guard, and thrust suddenly into the presence of Napoleon and his minister, Carnot. The latter, with his usual bluntness, exclaimed, "Is this the man, then, who pretends to do what Heaven has made impossible,—tie a knot with a tight thread?" Quite appalled by the new and sacrilegious light in which his dear invention was held up to him, the poor weaver shook in his sabots, and could find nothing to say; but he put his machine in motion, and vindicated his aspersed piety by proving that Heaven had not made the matter impossible to him. That fact established, he was presented with a big medal and a little pension, both of which he carried, chuckling, home to his wife.

The loom was adopted everywhere, except in Lyons. The Lyonnese could not believe that one of their own ignorant artisans had achieved so great a triumph. They sceffed at Jacquard and mobbed his house; they tore his machine to pieces, burnt the wood, and sold the iron for its weight. His wife died, and, in all his sorrows, not one hand was stretched out in sympathy, not one compassionate word was spoken. He went away, heavy-hearted, to an isolated cottage, where he lived alone, with his medal and his pension, and where he died, solitary and despised. When Lyons found that rival cities were excelling her in the quality and rapidity of their manufactures, she adopted the new loom too; but Jacquard was not there to see,—the web of his life had been finished long before,—so the people, with tardy repentance, said, "Poor Jacquard!"—and put up a bronze statue of him in the public square.

Since then, many varied improvements, of less importance, have been made, here and there, in both the manufacture and culture of silk. There is hardly a civilized nation which has not experimented, more or less, in both pursuits; to see with what success, we need only look at the present political position of this masterful insect, Bombyx. He clings with unchanging fondness to China, his own, his dear, his native land, and that empire furnishes every year more than a third of the whole silk produce of the world. Italy stands next in the rank of cultivators, and from her vast cocooneries sends out one-fourth of the entire supply; France and India contribute each one-tenth; Japan, Persia and Spain give a lesser fraction, and the other nations come straggling after, with their smaller quotas. In our own country, twenty years ago, the annual crop was more than sixty thousand pounds of cocoons; ten years ago it was less than eleven thousand. In several other places the decrease has been almost as great, and manufacturers have quaked a little with fear of a diminished supply. But there is no ground for any such apprehension; the crop has lessened only in the most northern boundaries of its cultivation. The resources of China, Italy, India or Spain are not yet half developed, and there is no definite limit to the amount of silk they might produce, if they were stimulated to it by an increased demand.

SCIENCE, ART, STATISTICS.

The Sapsucker: Rare chance for a Bostoner to see the Great West without expense.

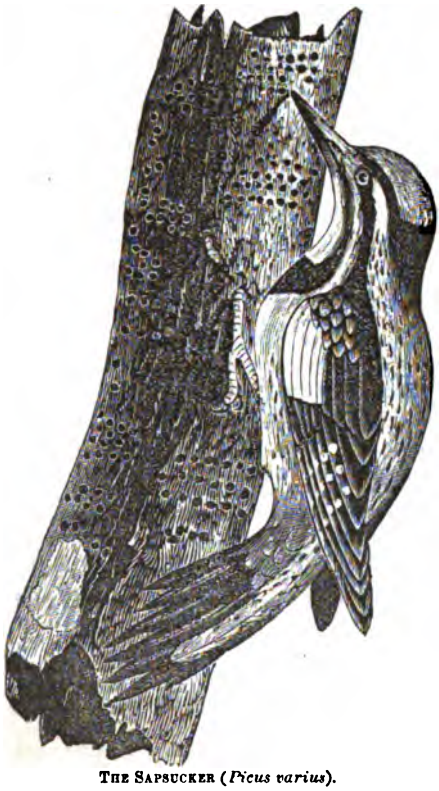
As the Sapsucker appears to have awakened a good deal of interest among Naturalists of late, and has even been the occasion of severe censure upon one of our most intelligent, generous ornithologists, we have thought it well to make room for a yet fuller discussion of the subject, that our readers may judge whether the severe rebuke administered by Mr. Samuels of Boston is really deserved, we herewith republish from the 6th volume of Transactions of the State Agricultural Society, just out of press, the communication of Dr. Hoy, which is, in every important respect, identical with the one reviewed in the March No.

Dr. Hoyt: I respond to your call by furnishing the following article, the substance of which was communicated to the Wisconsin Nat. History Society. It is at your service, with the belief that it embodies facts that add something to the stock of useful knowledge:

There is a singular want of agreement in the statements of writers, especially in the Agricultural Journals, in respect to the Sapsucker. One says the Sapsucker molests trees only that are infested by worms—that the worms are what it is after, and nothing more. Another, that the Sapsuckers are not in quest of worms but the vital juice of the tree—that they suck the sap of fruit trees and so on. These articles indicate the lack of close observation—of something definite by which we

can determine what species of bird they refer to; for all of the spotted Woodpeckers, and even including the Nuthatcher, are by many indiscriminately called Sapsuckers.

A term so indefinitely applied should either be dropped or restricted to one species, the yellow-bellied Woodpecker which not only sucks the sap, but eats the inner bark, (liber,) of various ornamental, fruit, and forest trees.



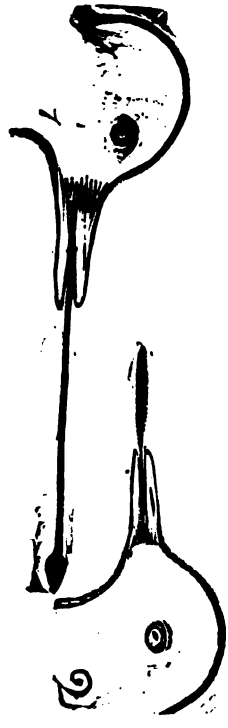
THE SAPSUCKER (*Picus varius*).

Description.—The Yellow-bellied Woodpecker, (*Picus varius* of Naturalists,) is in length 8½ inches; expanse of wings 15 inches. The whole crown and throat is a rich, deep scarlet red, bordered with black. From the nostrils there is a white stripe running down the sides of the neck, curving slightly around the breast, which has a black spot in the centre. Wings black, with an oval spot of white; the primaries tipped and spotted with the same. Rump white, bordered with black; belly yellow; back dusky yellowish, waved and spotted with white.

The female marked nearly as the male, but wants the scarlet throat, which is whitish.

The young in October have the red mixed and mottled with brown.

The tongue of this species is quite unlike that of any other of our Woodpeckers; the horny tip is very much larger than in any other species, of the same size, with which I am acquainted; the point is rounded, unlike the sharp, lancet-like tip of the Downy, and Hairy Woodpecker, so well fitted to explore for those worms that burrow in trees. The tongue is short and stout, admirably adapted for scooping out the inner bark and viscid cambium, (the jelly-like substance which is to form the new growth, situated between the wood and bark,) on which it subsists.



The outline cut will explain the difference between the tongues of the Hairy Woodpecker, figure 1, and that of the yellow-bellied species, figure 2; the two birds being nearly of the same size, the tongues are represented as being thrust out to their full length. In vastly the majority of Yellow-bellied Woodpeckers the tongue is not capable of being extended more than from one-half to three-fourths of an inch beyond the beak; while in other species the tongue can be protruded from two to four inches. The stomach, or gizzard, is large and muscular. There are other anatomical peculiarities, all, however, fitting it to procure and digest the bark on which it mostly lives.

Prof. Spencer F. Baird, of the Smithsonian Institute, has recently constructed the new genus *Sphyrapicus*, of which *Picus varius* is constituted the type; a wise disposition, doubtless, for in habit and voice, as well as anatom-

ically considered, this species differs widely from all other of the so called spotted Woodpeckers.

The Yellow-bellied Woodpecker is found throughout North America, east of the Rocky Mountains; north-west of the great lakes it is the most numerous species. They make their appearance at Racine, Wis., suddenly in large numbers after a warm night, about the 15th of April; for, like many other birds, Woodpeckers migrate only during the night. Then comes "prime *boy-time;*" armed with bow and arrow, cross-bows, guns, pistols and stones, all sorts and sizes hurry to wage war against the "*Sapsucker;*" and so eager is the pursuit that it is sometimes difficult to determine which do the greater damage for the time, the boys or the birds. The Sapsuckers time is now divided between playing *bo-peep* with the boys, and gouging out the tender bark of various trees; maple, cherry, peach, plum, apple, pear, mountain ash, poplar, pine, spruce, in fact almost every species of tree suffers more or less. The holes are made on the trunk and large branches, usually in a line running around the tree or branch, so as to girdle it with a row of punctures. These are from one-sixth to one-half an inch in diameter, and placed so close that there is only a narrow septum between, not sufficient, many times, to keep up the circulation and in consequence the tree dies; a result that occurs more frequently from wounds thus made in the summer and fall, when the divisions are more liable to dry, than during the spring when the active forces of vegetable life more readily repair the injury. There is not an orchard or garden of any size in this vicinity, that does not number trees killed outright by these sapsucking Woodpeckers.—All go further North by the 5th of May, except such as remain to nest in the adjacent woods. While in the forest they feed on the bark of the wild cherry, iron wood, basswood, and white oak, but continue to visit neighboring orchards for a more dainty meal, as they prefer thrifty cultivated trees. By the middle of September the young appear in the orchards and gouge the trees on their own hook; they retire South by the first of November. A silent bird, especially when sucking their food, an occasional *kewee, keweeah,* uttered in a minor key, is all the note they have.

I have shot and dissected many at all seasons, and in every case bark was found in the stomach, and in a majority of instances nothing but bark and a few gravel stones, a substance not met with in other species of Woodpeckers. When insects were found they proved to be *ants* and small *beetles;* in no instance have I found the larva of the *borers* or *elators,* which constitute so large a share of the diet of the Hairy and Downy Woodpecker.

Several years since these facts were communicated to Prof. Joseph Leida, of Philadelphia, who requested me to forward specimens in alcohol, "as my statements were highly interesting, being new to Science." In compliance, I shot a specimen while he was engaged in breakfasting on a Silver-leafed Poplar; I also chipped out that portion of the tree on which he was operating at the time. In answer, Prof. Leida stated that his dissections confirmed my statements in every particular.

I have described the migration as occurring at Racine, which will answer equally well for most localities in the North-west, with the exception of numbers, for it is an interesting fact that for physical reasons elsewhere explained, birds are met in greater variety, and in larger numbers, during their migrations, at this point than in any other place, perhaps, in North America. A statement amply proved by the large number of species in my cabinet, collected within ten miles of Racine.

DOWNY WOODPECKER—(*Picus pubescens.*)

The second species is in rather bad repute for its sapsucking propensity. It is more commonly called the *Little Sapsucker,* in contradistinction to the Hairy Woodpecker (*Picus villosus*), which it closely resembles in everything except size; even the same *plick, plick, plip,* is repeated, only in a more feeble voice.

The Downy Woodpecker is only 6½ inches in length, and 12 inches in expanse of wings — Color, black and white, spotted and streaked; the male has a small red spot on the back of the head; female similar, without the red.

This little hardy species, together with the larger Hairy Woodpecker, remain with us during the entire year.

The habits of this industrious, cheerful bird, have been severely commented upon by many; but I am of the opinion it has been made, unjustly, to answer for the sins of the Yellow-bellied species. That the Downy Woodpecker does, during early spring, tap the maple for the purpose of slaking its thirst, I have had occular demonstration; and that it makes many small punctures in certain sweet apple-trees, for which it pays rather frequent visits to the orchard, I have but little doubt; yet I *do know* that I have shot and dissected very many with the object of ascertaining the contents of the stomach, and in no case have I found vegetable matter; but in all instances I have found abundant evidence that the bird has been engaged in a good work—in destroying the larvæ of the *borer* and *elators,* that do so much injury to our fruit and ornamental trees.

There is one valuable office to which, so far as I can learn, this species alone is engaged in; that is the destruction of the pupa of the various species of Atacus, (the native silk-worm moths,) thereby keeping in check and preventing the undue multiplication of the large, voracious larvæ of these splendid insects.

Prof. J. P. Kirtland, in his report on the Zoology of Ohio, condemns the Downy Wood-

pecker for mischief-doing, and invokes that extermination I would call down on the *Picus varius*, and for similar reasons. But I must believe that the Professor has inspected the work of the Yellow-bellied Woodpecker, and charged the innocent with the damage. With all the evidence I have collected, in the fourteen years my attention has been directed to the Woodpeckers, with the view of deciding this matter, I would not dare recommend the destruction of the Downy Woodpecker; but, instead, I would commend this bird to the kind protection of the Horticulturist, believing it to be his best interest so to do.

Yours truly, P. R. HOY.

From a private letter just received from Dr. Hoy, we venture to make the following pithy extract without further comment:

"I do not know who this Mr. Samuels is; but I do know that he is in *great haste* to remind us of the West that we must be extremely careful how we write or talk of things new, unless we first ask the BOSTON FOLKS, for whatever is worth knowing must come from that heaven-favored spot, where the *shriveled leaves* of the Book of Nature can only be read with profit. The habits of the wild denizens of the western forests can only be studied with profit in the Cabinets of Cambridge or the Museums of Boston—Wonderful Samuel!! Great is Boston!!

"I shall not answer the article, for he is barking up the wrong tree. I have nothing to say against the *Picus villosus*—one of my favorites. I wish I had a spare copy to send to him.

"I will authorize you to say that I will obligate myself to pay the expense of Mr. Samuels from Boston to Racine and home again, if I fail to convince him of the truth of every statement in my lecture."

Shall we Destroy the Sapsucker?

After this question had been fully settled by nurserymen, and others who have lost their young and tender trees by the injury these birds have inflicted, and by such naturalists as Dr. Kirtland of Cleveland, Dr. Hoy of Racine and Dr. Leidy of Philadelphia, it is attempted to be again opened by Mr. E. A. Samuels of Boston, in the March No. of the WIS. FARMER. He has committed the blunder of applying this sap-sucking quality to the wrong bird, and very naturally comes to the conclusion that Dr. Hoy is altogether mistaken. If he should tell us that squirrels do not eat nuts—he knows they do not—because he has examined the stomach of a cat and finds in it only the mangled remains of a mouse—his argument would be about as conclusive as in the present case!

When Mr. Samuels examines the matter with as much care, skill and thorough scientific accuracy, as Dr. Hoy has, he will find reason to apply to himself some of the harsh words he has hurled at that naturalist. It will be found that he is himself the "educated man" who is teaching the "ignorant farmers" absurd doctrines; though he is not a man who has the reputation of being scientific, nor does he "understand the subject of which he speaks."

I. A. L.

Continental Money.

The *National Intelligencer* says: "As we have repeatedly seen it stated that the continental Congress, under the articles of confederation, exercised the right of declaring Treasury notes lawful money, and made them a tender in payment of debts, it may be proper to remind the reader that this statement is somewhat inaccurate. The Congress of that date had no power to enact any such law, but merely recommended the legislatures of the several States to adopt measures to this effect.

"In the journals of Congress, for January 14th, 1777, we read that that body, on that day, resolved itself into committee of the whole, to take into consideration the state of the Treasury and the means of supporting the credit of the continental currency, and, after some time spent thereon, the president resumed the chair, and Mr. Nelson reported that they, having had under consideration the matters to them referred, had come to sundry resolutions, which were then submitted and agreed upon. The closing paragraph of the report was as follows:

"'Let it be recommended to the legislatures of the United States to pass laws to make the bills of credit issued by the Congress a lawful tender in payment of public and private debts, and a refusal thereof an extinguishment of such debts; that debts payable in sterling money be discharged with continental dollars, at the rate of 42.6 sterling per dollar; and that, in the discharge of all other debts and contracts, continental dollars pass at the rate fixed by the respective States for the value of Spanish milled dollars.'

"In accordance with the recommendation contained in these resolutions, continental money was made a legal tender in Connecticut

in October, 1776; in Massachusetts, December, 1776; in Rhode Island, July, 1776; in New Jersey, August, 1776; in Pennsylvania, January, 1777; in Delaware, February, 1777; in Maryland, April, 1777; in Virginia, May, 1777.

"In correcting a historical inaccuracy with regard to the source which declared the continental money a legal tender, the reader will, of course, understand that it is no part of our purpose to augur or suggest that Treasury notes issued by our government at the present day, under circumstances so different from those surrounding the continental Congress, would be subject to any similar depreciation."

THE MINER.

J. MURRISH, : : : CORRESPONDING EDITOR.

It may be well, perhaps, before entering upon the work which properly belongs to this department, to inform those interested in mining, and in the development of the metallic resources of the State, what this department contemplates doing. It is a well known fact, that up to the present time, but little, comparatively, has been done to ascertain the richness and extent of our mineral deposites. The pioneers of mining—many of whom became rich—were too busy in their pursuit after wealth, to stop to enquire after facts, or even to record those which every day unfolded themselves before their view. And we, their successors, have up to the present time, followed their example. It is time however to pause, and examine the facts accumulating on our hands; systematically arrange them, and place them on record to be examined by others.

We purpose in the first place to collect all the practical information we can obtain from the mining region, and publish it in such a way that it will be accessible alike to the miner, the land-owner, and the capitalist; and that too with a view of ascertaining the extent and richness of our mineral veins, and the importance of mining as a branch of industry. For this purpose this department is opened, and to the best of our ability will be devoted to mining intelligence and mining interests.

In connection with this department, we purpose also to form a museum of practical and scientific geology, composed of specimens of rock, ores, fossils, and whatever illustrates the economic geology of the mines, and the nature and character of our mineral veins. These specimens shall be carefully collected from the different localities throughout the mining region; and so arranged as to represent, not only the locality from which they have been taken, but the peculiar formation to which they belong. They will also serve to illustrate the detailed reports which will be made, and published in this journal, of the important mines in the localities above referred to, and the facts which otherwise may be obtained and recorded here.

For this purpose the use of the State Agricultural Rooms are offered, a place beautifully adapted for the purpose. Those interested in the development of our metallic and scientific resources, cannot too highly appreciate this offer, and the offer of this department, without money or price for mining and scientific purposes. And we hope they will put forth every effort to make this department, and the museum, worthy of it, and of the important branch of industry which they represent. It is not necessary for me to argue the importance of this work here, a moment's reflection will make it appear. I know there is a disposition on the part of the mining community to reject all speculative theories on our mineral veins; and it is right it should be so. But on the other hand we should search diligently for that light which science and intelligence will afford us on this great question. We may as well try to believe that there are no such agents as heat, chemical affinity, and electricity in physical nature, as that there are no laws under which mineral veins have been formed and filled. But the testimony of all scientific men is, and all experience goes to show, that they belong to that class of agents, (or laws) whose mode of operation, and the rule which they follow, lies deeply hid from the theorist, or the superficial observer, and can be detected only by a careful record of their phenomena, and a careful arrangement of those facts which such phenomena afford. If

the work we contemplate doing now, had been begun twenty years ago, and continued down to the present time, the cabinet formed, and the records preserved, would be worth to the mining region to-day a thousand times more than the information we have obtained, or shall obtain, from the geological survey, valuable and important as that may be. As the collecting of the above named information and specimens for the cabinet, is to be on the part of those engaged, a "labor of love," I would ask that some one be appointed in every mining locality throughout the State for this purpose, and forward the same to me at this place, (Mazomanie, Dane Co.,) or hold it subject to my order when I visit that place. J. MURRISH.

MR. EDITOR:—I was very much pleased when I noticed in the March FARMER, a Department called the "Miner," opened for mining intelligence; and regarded it as a new and important era in the history of our mines. Nothing has done more to retard the progress of mining, than a want of something of this kind; nothing will do more to infuse new life into it, to wipe away the disgrace with which certain parties seek to cover it; to bring it out in its own light, and obtain for it the respect of the world, than the department referred to in your journal. Nor is there a journal published in the State, in which a department for mining intelligence would be so well adapted to the wants of the mining region as the FARMER.

You, very truthfully remarked, in your notice of this subject, that the mining interests of the State were second only to the agricultural.—Let me here remind you of another fact, however closely related these two branches of industry may be in point of importance, there are other relations affording stronger reasons why they should be united as twin sisters in your journal, and regarded not as though they had rival claims to be supported, but as branches of industry whose sympathies and interests are reciprocal. In this light they should be viewed, and in this journal they should be united, supported, and admired, as the pillars and ornaments of our political economy.

Allow me then, in entering upon the work, in connection with this department, to which you have invited me, to feel that I am not intruding on the columns of this journal, nor on the interests of agriculture; but only engaged in another department in the great temple of industry, in which we have common interests; to build up and adorn which, demands our united efforts, and the sympathy and support of every citizen. J. M.

Ancient Tin Mining, etc.

Tin was anciently the most celebrated product of Britain, and appears even at that time to have been extracted in considerable abundance, since it was the desire of obtaining possession of these mines, and becoming thereby independent of the Phœnician monopoly, which first induced the Romans to visit the island.

Before the conquest of their country, the ancient Britons extracted this metal from its ores by methods which they had themselves discovered, and which were probably improved on by their conquerors. The smelting process would seem to have been very simply conducted. The broken ore was placed in a hole in the ground, the sides of which were lined with pieces of wood; these, on being ignited, reduced the metal, which was separated from the slags by being run off through a narrow channel into an outer receptacle. Many of these rude furnaces have been found in various parts of Cornwall and elsewhere, in which only charcoal and slags have been discovered, but also portions of the reduced metal.

COPPER MINING IN 1861.—The mines of Lake Superior have closed the most vigorous and prosperous of campaigns, and have raised, in the aggregate, over ten thousand tons of copper mineral, which will average, on metallurgical treatment, about 85 per cent. for refined metal. The district of Portage Lake, the youngest of the three sections—has led all in production, having raised and shipped, from the seven mines in operation during the season, over 4,500 tons of high per centage ore. This, with the exception of that produced by the Quincy Company, has been treated at the Portage Lake Smelting Works—the amount produced there being 5,129,000 pounds of ingot copper. If we estimate the value of the Quincy's mineral to have been 75 per cent. (certainly low enough,) we will have 3,600 tons as the product of the Portage Lake mines in refined metal.—*Cor. Detroit Tribune.*

THE HOME.

The Child, Liberty.

BY MRS. HOYT.

When our fathers, outcast from the Old,
Sought the New World's untrodden wild,
With God alone, since time untold,
They found a fair and simple child.

In his great name she bade them, hail!
And welcomed home our hero sires;
And there they furled their venturing sail,
And lighted, there, their altar fires.

For Liberty was what they sought;
Safe from the perils of the deep,
They swore to count all else but naught,
And sacred, still the child to keep.

On Plymouth rock now beats the surge
That roars above their burial urn,
Where still our watchful eagle soars
With stripes that float, and stars that burn.

But "Where, oh where is Liberty!"
Cries out, to-day, that honored dust;
My country, it demands of thee
"How hast thou kept that holiest trust?"

Where now Columbia lies spread
From Plymouth to Pacific strand,
The memory of whose glorious dead
Yet holds in trust the world's right hand,

Where Liberty is still a name
Where victor songs are proudly sung,
And highest in our nation's fane
Her bannered trophies still are hung,—

Lo, on the hills with bleeding feet,
That blessed child, no longer fair,
While traitor hordes, with hell's deceit,
Flaunt her pure robes in heaven's blue air.

No longer fair? Never so fair
As now from east to western main,
Lighting her camp-fires everywhere
Her ancient glories to regain.

God pity us! Hold up our hands;
Make our dear land the great and strong;
Loved with a love that breaks all bands,
And dashes out all human wrong;

Until no wail from quivering hearts
Shall smite the seas from off our shore,
And not till hope from time departs
Go down the flag our fathers bore.

Machines for Women's Work.

"Housekeeper" says "sewing machines are so dear that they are beyond the reach of those who need them." There are few farmers who are so well off as to have much out-door as well as in-door work to do, but can afford $40 or $50 for a sewing machine. Could they but realize what women's "never ending work" is, and study into the economy of its performance they would readily see what would be made by the purchase.

But they say "our mothers didn't need sewing machines?" No, and our fathers didn't need mowers and reapers and thrashing machines,—but you have found out that you do, and many other conveniences for expediting your labor.

Men with their sinewy strength and iron nerves are apt to think *sewing isn't much*, that its a kind of second nature for women to keep their fingers busy when they've nothing else to do. It surely can't be *hard* work to wield so delicate an instrument as a needle, strung on a slender thread, even if the day has been passed in housework and child cares and mother is tired all over, before she sits down to her sewing. But its *not* so very easy to ply the shining shaft through and through the thick fabric of those heavy pants; so many such stitches in a year are to be thus taken one by one! that the sewing occupies every moment spared from housework. Ah, most of you *can* "afford" it! Let me persuade you to make the effort. There may be some sacrifice the first year, but the next will pay it back. Your wives will accomplish a vast deal more, be less hurried and worried and flurried, have time to attend to a good many things hitherto neglected and practice many little economies for which now they have no time. Where the time for making is no longer a consideration—many an outgrown or no longer wearable garment will be remodelled and do good service, when if it were to be made by hand it would not pay. With patience and a little practice, one thing after another will be found possible on the sewing machine, till little is left for hand stitching, beside button holes and darning.

I purchased a Wheeler & Wilson's sewing machine four years ago. In less than two years it chanced the price was reduced one third. Was I sorry I had not waited? No indeed! Money could not buy the relief and comfort it had been to me. In four years thorough testing on every thing needed by a family of seven, its excellence suffers no diminution, but rather increases. I never find myself with a huge pile of sewing ready prepared, but a sweet sense of satisfaction steals over my spirit, and I bless my sewing machine!—Bless it for the ease from that burden of sewing which was forever increasing beyond my ability to despatch it, and was a constant incubus upon the spirits.

If there are girls and boys in the family who have leisure, they can be easily taught to operate while mother sits by and prepares the work.

There *are* sewing machines cheap enough for any purchaser. My investigation and observation before purchasing, inclined me to the decision that the *best* was the cheapest,—doing all kinds of work needed in the family—working smoothly, with little expenditure of strength,—no getting out of order, repairing or wearing out, with ordinary care and use.

The Wheeler & Wilson—Singers' and Grover & Baker's are acknowledged the best three.

Singer's seemed best adapted for heavy manufacturing purposes and is more complicated. The Grover & Baker stitch is an objection, making a cord on the under side and is more profuse of thread, while the manner of holding the work is more inconvenient. The W. & W. makes a stitch on both sides alike—so that in hemming, or other work where it is more convenient, the sewing can be done on the wrong side; thus dispensing with much *basting*. Then the work running in a straight line before the operator is in its favor. An erect posture can be maintained, with little reaching of the arms or wearying of shoulders and back, while the seam is easily guaged and kept true without basting. After a little practice there is no more, if as much, basting as for hand sewing. Of machinery there is so little and that so simple and substantial, as to carry durability on the face of it.

With regard to knitting machines, when living in Wisconsin I looked about for one but was not satisfied. They did not seem yet adapted in price or capability to family use. Persons convenient to cities or large towns, can purchase the hose and make up stockings as needed, or they may be purchased complete at comparatively reasonable rates. The knitting machine is not so continually needed as the sewing machine, and might be owned by a company or neighborhood.

There are many things about women's work that needs to be done, day after day and week after week, for which there should, and surely will be efficient, simple, and inexpensive implements invented.

The sewing machine is the only thing which I happen thoroughly and satisfactorily to have tested.

Washing and sweeping machines *should*, by this time, be perfected, but I have not chanced to find them so. I have heard of a clothes wringer highly commended, which may be attached to any tub, wringing the clothes through the various waters. If this works well, and without tearing the fabric, or wringing off buttons, it will prove an admirable lightener of wash day labor. To perform their many duties, women need all the help they can get in the way of conveniences and implements, and I am always interested in every invention having this end in view. ELSIE.

COLUMBUS, Ohio.

POCKET THREAD CASES.—Cut morocco or cloth, a quarter of a yard long and four inches wide, round off one end, line with silk or woolen stuff. Sew lappets for needles on the square end, make three pockets—red, white and blue,—embroider the blue with thirty-four stars in white silk, and run elastic cord on the wrong side of the top of each, baste on the morocco at proper distances and bind the whole with galloon or worsted binding. When suitably furnished, is a useful gift for a friend going to serve in army or navy.—*Farmer and Gardener.*

DOMESTIC ECONOMY.

Remarks on the Egg Question.

ED. WIS. FARMER: I would say that I, as well as Mrs. R. Gibson, packed eggs in ashes last summer, and think there is nothing superior for warm weather, where they are kept dry; mine kept nice and fresh until they were removed to the cellar, then the ashes becoming damp they soon became thoroughly impregnated with ley. I have usually packed my eggs as recommended by Mrs. R. W. Lansing, and find it answers for all practical purposes.

MRS. M. ADAMS.

DANVILLE, April 9.

POTATO YEAST.—Five large potatoes boiled and mashed, three pints of boiling water, flour enough to make it a little thicker than flapjacks, and one cup of yeast. This is enough to rise five loaves of bread, which may be mixed with water, or milk, and will rise enough while your oven is heating. Save out enough of this yeast for your next baking.

CHICKEN POT PIE.—Wash and cut the chicken into joints; boil them about twenty minutes; take them up, wash out your kettle, fry two or three slices of fat salt pork, and put in the bottom of the kettle; then put in the chicken, with about three pints of water, a piece of butter the size of an egg; sprinkle in a little pepper, and cover over the top with a light crust. It will require one hour to cook.

GOOD, WHOLESOME SMALL BEER.—Take two ounces of hops, and boil them, three or four hours, in three or four pailfuls of water; and then scald two quarts of molasses in the liquor, and turn it off into a clean half-barrel, boiling hot; then fill it up with cold water; before it is quite full, put in your yeast to work it; the next day you will have *agreeable, wholesome small beer.*

SIMPLE REMEDY TO PURIFY WATER.—Pulverized alum possesses the property of purifying water. A large spoonful stirred into a hogshead of water will so purify it, that in a few hours it will be as fresh and clear as spring water. Four gallons may be purified by a tea-spoonful.

MEASURE CAKE.—Take one tea-cup of butter, and stir it to a cream, two tea-cups of sugar, then stir in four eggs that have been beaten to a froth, a grated nutmeg, and a pint of flour; stir it till it is ready to bake. It is good baked in cups or pans.

OBSERVATIONS ON MAKING PUDDINGS.—The outside of a broiled pudding often tastes disagreeably, which arises by the cloth not being nicely washed, and kept in a dry place. It should be dipped in boiling water, squeezed dry, and floured, when to be used. If bread, it should be tied loose; if batter, tight over. The water should boil quick when the pudding is put in; and it should be moved about for a minute, lest the ingredients should not mix.—Batter pudding should be strained through a coarse sieve, when all is mixed; in others, the eggs separately. The pans and basins must be always buttered. A pan of cold water should be ready, and the pudding dipped in as soon as it comes out of the pot, and then it will not adhere to the cloth.

TO BROIL BEEF-STEAK.—Cut slices of beef as thick as your hand, put each on the gridiron, and set it over a bed of live coals free from any smoke, and broil ten minutes; when done, take it up on a platter or deep plate, and put pieces of butter over the meat; it should be broiled the last thing before the family sit down, and brought to the table hot; pour a very little hot water over the meat.

WIT AND WISDOM.

—A lady well advanced in maidenhood, at her marriage, requested the choir to sing the hymn commencing—

"This is the way I long have sought,
And mourned because I found it not."

—"Jacinto" says he once courted a down East gal and "popped the question" to her; she immediately pitched her entire mass of lovely clay into his willing arms, and answered: "I want to *know.*" It's an even bet that "Jacinto" imparted the desired knowledge.

—Among the excuses offered for exemptions from service in the southern army, one fellow wrote opposite his name, "one leg too short." Another, thinking to better it, wrote opposite his, "both legs too short." He had been reading some of the exploits of the southern armies, doubtless, and supposed legs to be the first essential.

—A lady in Troy, N. Y., one day last week purchased $40 worth of Honiton lace, which she left in the wrapper on a table. The next morning it was missing. On interrogating a servant she replied that she saw a bit of paper on the table and took it to light the fire with; and sure enough, "Biddy" had burned the lace. An expensive article of kindling.

—The following is a correspondent's account of an interview with a contraband: "We accosted one whose very immense blackness commended him as a genuine, unadulterated scion of Africa. 'Where do you hail from?' 'Culpeper Court House, sah.' 'What news do you bring?' 'Nothing, massa, 'cept dars a man lost a mighty good nigger dar dis morning, and I guess he dun lose some more 'fore night.'"

WAR MISCELLANY.

The Picket Guard.

[This beautiful—and it is to us, very beautiful—little poem was sent by a member of the 49th (N.Y.) Regiment to his wife.—*Buffalo Express.*

"All quiet along the Potomac," they say,
"Except, now and then, a stray picket
Is shot as he walks on his beat to and fro,
By a rifleman hid in a thicket.
'Tis nothing—a private or two, now and then,
Will not count in the news of the battle;
Not an officer lost—only one of the men
Moaning out, all alone, the death rattle."

* * * * * * *

All quiet along the Potomac to-night,
Where the soldiers lie peacefully dreaming;
Their tents in the rays of the clear autumn moon,
Or the light of the watch fire gleaming.
A tremulous sigh, as the gentle night winds
Through the forest leaves softly is creeping;
While stars up above, with their glittering eyes
Keep guard—for the army is sleeping.

There's only the sound of the lone sentry's tread,
As he tramps from the rock to the fountain;
And he thinks of the two in the low trundle bed
Far away in the cot on the mountain.
His musket falls slack—his face, dark and grim,
Grows gentle with memories tender,
As he mutters a prayer for the children asleep—
For their mother—may Heaven defend her!

The moon seems to shine just as brightly as then—
That night when the love, yet unspoken,
Leaped up to her lips—when low murmered vows
Were pledged to be ever unbroken.
Then drawing his sleeves roughly over his eyes,
He dashes off tears that are welling,
And gathers his gun closer up to his place,
As if to keep down the heart swelling.

He passes the fountain, the blasted pine tree—
The footstep is lagging and weary;
Yet onward he goes, through the broad belt of light,
Toward the shade of the forest as dreary.
Hark! was it the night wind that rustled the leaves!
Was it moonlight so wondrously flashing?
It looked like a rifle—"Ah! Mary, good-bye!"
And the life blood is ebbing and plashing.

All quiet along the Potomac to-night!
No sound save the rush of the river:
While soft falls the dew on the face of the dead—
The picket's off duty forever!

The Battle of Shiloh.

Military operations for the past month have been of a very important character, and on the 6th of April one of the severest battles of the war was fought at Pittsburg Landing. The particulars of this fight have been laid before the public through the columns of the weekly press, we therefore will not attempt a description of it. We must, however, take the liberty of saying a word in regard to one part of the affair. All accounts agree that our troops were taken by surprise—that our outposts were not sufficiently guarded, and that the usual precautions of an army in an enemy's country were so neglected, that the rebels were impressed with the idea, that a trap was laid for them, and that our pickets had been withdrawn in order to draw them into ambush. A want of generalship was displayed in throwing an inferior force across a stream in the face of double the number of the foe, and still less excusable was it that that inferior force should be left unprotected by intrenchments or artillery. It has been stated, on good authority, that Gen. Grant was at his quarters at Savanna, 12 miles from the scene of the fight, and that he was so overcome by liquor on the Saturday evening previous, that he was unable to attend to his duties. If such was the case, the public voice should demand that he be courtmartialed and cashiered. No general should be tolerated, who is guilty of such excess. Wisconsin has a special interest in this matter. By this criminal negligence on the part of the commanding general, our brave sons have been mercilessly slaughtered, and many a fireside has been desolated. The people of our State should demand an investigation into the causes which led to the surprise and sacrifice of our troops at Shiloh, and we hope the Legislature in June will deem it advisable to express the feelings of their constituents upon the subject.

Considering the list of killed, wounded and missing, at the battle of Pittsburg Landing, of our Wisconsin regiments, will be of interest to the readers of the FARMER, many of whom have friends or relatives in the army, we have copied from the *Wisconsin* the list entire, to the exclusion of some of the usual departments of our paper.

WISCONSIN'S ROLL OF HONOR!

Losses in Each Regiment at Pittsburg Landing.

[From the Daily Wisconsin.]

List of Killed, Wounded, and Missing in 14th Regiment, Wisconsin Volunteers.—Col. D. A. Wood.

FIELD OFFICERS—Col. E. Wood, Lieut. Col. J. E. Messmore, wounded.

COMPANY A—WOOD PROTECTORS.

Killed—Corp. Jos. King.

Wounded—Private James B. Titus, in ankle, badly; do E. G. Mascraft, slightly in leg; do Adam Slidell, slightly in shoulder.

1 killed, 3 wounded.

COMPANY B—WAUPACCA AND UNION RIFLES.

Killed—Private John Eastwood.

Wounded—Lieut. J. D Post, hip, not bad; sergeant Charles Drake, left arm and side, mortal; corporal Gottlieb Stanly, in the left shoulder, badly, private Ezra L. Whittaker, left leg, bad flesh wound; Thos. Morgan, left thigh, badly; John Barker, in left leg, slightly.

One killed, 6 wounded.

COMPANY C—OMRO RIFLES.

Killed—none.

Wounded—Lieut. A. S. Smith, wounded in side by shell; sergeant Wm. Dittey, dangerously in throat; corporal Alonzo B. Miller, in shoulder; privates Sol. Stateler, badly in left shoulder; Nelson T. Hammond, badly below knee; Jas. Stateler, badly left thigh; James Alley, dangerous through breast; James K. Bishop, slightly in foot; James E. Williamson, finger shot off; George E. Stunts, slightly in face.

None killed, 10 wounded.

COMPANY D—MESSMORE GUARDS.

Killed—Private John B Glenn.

Wounded—Sergeant Gallagher, slight, through hand; corporal Guertin, do in right foot; corporal Harris, severely in left leg below knee; private Owens, severe, left leg above knee; Alfred Collins not dangerous, back of neck: Wm. Reed, slight, through left forearm: Louis Amiot, not badly, left jaw

One killed, seven wounded.

COMPANY E—MANITOWOC AND KEWAUNEE VOLUNTEERS.

Killed Capt. Waldo.

Wounded—Privates, Ezra Austin, through right breast and right leg, dangerous; Wm. Baruth, through left leg, badly; Julius Wintermeyer, slight in back of neck; Wm. Flinn, flesh wound in left arm, slight; A. C. Tufts, flesh wound in right arm; Samuel Gokie, badly, by falling of tree; (rescued by rebel captain who gave him water) John Lovell, bruised by ball; Robert Lee, slight in right thumb; Willett C. Wheeler, right forefinger shot off.

Killed one, wounded nine.

COMPANY F—DEPERE RIFLES.

Killed—John D. Putnam.

Wounded—Second sergeant Charles Vincent, severely through right thigh; fourth corporal Hudson J. Cronk, right forearm and middle of left hand; private Henry Wescott, severely through right thigh, lodging in left; Gregory Miliquiet not dangerous, through neck; James N. Howard, not dangerous, in right leg just above ankle; four others very slightly wounded.

Missing—Frank Silver.

Killed one, wounded five, missing one.

COMPANY G—CALUMET AND MANITOWOC UNION RIFLES.

Killed—Private Lucius D. Barker; Newton, wounded, since died; Samuel Bump, John Moseier.

Wounded—Corp. Theodore Josch, through bowels, very dangerously; Bugler Henry Scorists, heel, slightly, Private John Kief, face badly.

Killed 4, wounded 3.

COMPANY H—FOREST UNION RIFLES.

Killed—Private Henry Peder.

Wounded—Corp. Henry Voss, slightly; Spencer A. Hamblin, slightly; private Edward Gilman, dangerously; Peter Cuttell, slightly; David Carr, slightly; George B. Clark, slightly; Andrew Winegarden, slightly.

Missing—Amos Cripper.

One killed, seven wounded, one missing.

COMPANY I—BLACK RIVER RANGERS.

Killed—Private Thos. Raison; Fred Cullen; Harvey Frost; Gottlieb Schlinsog.

Wounded—Corporall G. S. Travis, leg, slightly; S. D. Parker, in thigh, slightly; Wm. Stenesky, in arm, slightly; Waterman Lichness, in leg, slightly; private Charles Bacon, shoulder, slightly; Henry Ross, severely; George Rutherton, leg, slightly; G. W. Reeder, hip, slightly; Joseph Wilson, arm, slightly; Harrison Maxon, arm, finger off; J. W. Rockwood, wounded and missing: Elisha Stockwood, shoulder and arm, not badly; N. M. Clapp, thigh, slightly; Henry Lincoln, leg, slightly.

Four killed, 14 wounded, one wounded and missing.

COMPANY K—NOBLE GUARDS.—(DANE AND COLUMBIA COUNTIES.)

Killed—none.

Wounded.—2d Lieut. M. W. Hulbert, hip, badly; Corporal Horace D. Lyman, hip, badly; Irwin Underwood, leg, flesh wound; private Anthony Korneah, groin, badly; Chas. A. Brice, knee, badly; Hiram Filkins, not very badly; Aug. W. Kirby, forearm, slightly; Chas. Larcher, shoulder and skull, not dangerous.

None killed, 8 wounded.

TOTAL KILLED.

Company A—1 Non-commissioned officer.
" B—1 Private.
" C—None.
" D—1 Private.
" E—1 Commissioned officer.
" F—1 Private.
" G—4 Privates.
" H—1 Private.
" I—4 Privates.
" K—None.—Total 14.

TOTAL WOUNDED.

Company A—3 Privates.

Company B—1 Commissioned officer, 2 Non-commissioned officers and 3 Privates.

Company C—1 Commissioned officer, 2 Non-commissioned officers and 7 Privates.

Company D—3 Non-commissioned officers and 4 Privates.

Company E—9 Privates.

Company F—2 Non-commissioned officers and 3 Privates.

Company G—1 Non-commissioned officer and 2 Privates.

Company H—2 Non-commissioned officers and 5 Privates.

Company I—4 Non-commissioned officers and 10 Privates.

Company K—1 Commissioned officer, 2 Non-commissioned officers and 5 Privates.

Total killed, wounded and missing—93.

List of Killed, Wounded and Missing in 16th Regiment Wisconsin Volunteers, Col. Allen.

Field Officers—Col. B. Allen slightly, and Lieut. Col. L. Fairchild, badly wounded.

COMPANY A—WAUSHARA & GREEN LAKE RANGERS.

Killed—Capt. Edward Saxe; 2d Serg't John H. Williams; Private Cyrus B. Howe; George M. Camp died from his wounds.

Wounded—gone down the river—First Sergeant

Cooley Smith, in shoulder; Privates Reuben Billings, thigh; Peter Bird, head; James O. Champlin, hand; Joshua Eldridge, legs; Truman Hall, foot; John Lurch, legs; John Michaels, leg amputated; Wm. P. Walbridge, in foot; James Patterson, in groin; John A. Smith, arm amputated; Newton Whitman, leg; J. H. Kellogg, thigh.

Wounded in camp—Corp. J. L. Vidal, slightly in leg.

Missing—Corp. J. M. Marshall; Private George Creak, wounded; Private Bordine Hawley, wounded.

Killed, 4; Wounded, 16; Missing, 3; twice counted, 2; Total, 19.

COMPANY B—OCONOMOWOC RIFLES.

Killed—Corp. J. H. Morris.

Wounded—1st Serg't E. G Wheeler, in both legs severely; Private J. Brobst, in leg severely; T. W. Cross, in leg severely; E. W. Ellis, in foot severely; J. Jargenson, in leg slightly; H. Noncaron; H. Powers, in knee seriously; J. C. Quiner, in arm seriously; H. J. Hanes, in head severely.

Missing—Fifer W. W. Drum, Private Eli Coughden, J. R. Dexter, E. S Evenson, Chas. Farncrook, Jessie Hill, Aaron Hollenbeck, L. Peabody.

Killed, 1; Wounded, 9; Missing, 8.

COMPANY C—DODGE CO. GUARDS.

Killed—4th serg't James P. Wilson; private Gerrit E. Post; Henry Holton.

Wounded—Capt. H. D. Patch in shoulder, slightly; 2d Lieut. E. M. Hovey, in right hand slightly; 3d sergt., in right hand slightly; corp. A. H. Turner, in left arm twice, severely; corp. F. Rix, in right side, slightly; private August Flikin, received five wounds, seriously; do C. H. McGould, in right leg, severely; do I. H. Hampton, in right thigh, severely; do Wm. I. Kruskie, slightly; do M. McMullen, right thigh, severely; do W. H Stevens, right arm, severely; do F. Graham, right arm severely; do Max Morts, wounded and missing.

Killed, three; wounded, thirteen; missing, one—total, 15.

COMPANY D—UNION GUARDS, HANCHETTVILLE.

Killed—Capt. Oliver D. Pease, corp. Wm. Taylor, private Alphonso Harrington, do August Wollem, do Louis Pettis, do Chester W. Haskins.

Wounded—Sergeant John S Bean, in arm, seriously; corp. Chas. N. Virgin, slightly, corp. Michael Walrod, slightly; private O'Brien E. Cook, slightly; Herman Gerrick slightly; Joseph Edwards, slightly; James M. Lyons, slightly; Dennis Delanty, seriously; Josiah W. Fields, seriously; Burton R. Towsley slightly; Chas. H. Tracy, slightly; Wm. Hamilton, slightly; Daniel Kallahan, slightly; Harrison Fuller, slightly; Milo Farrington, seriously—leg amputated.

Missing—Lieut. Louis Flashbim.

Killed 6; wounded 14; missing 1. Total 21.

COMPANY E—ADAMS COUNTY RIFLES.

Killed—Color Sergeant John P. Mills, 4th Sergeant Joseph L. Holcomb, Privates Louis E. Knight, Irwin L. Rider, Philo Perry, Henry L. Thomas; died of wounds, April 15th, Augustus Caldwell.

Wounded—Corporal Almon Webster, shoulder, severely; Corporal Robert D. Sparks, shoulder, severely; Private Aaron Newcomb, arm, severely; Albert Gates, hand, severely; Oscar R. Brownson, both hips, severely; Jesse Crouch, hand, severely; Hosen Hugoboon, shoulder, severely; Henry Lininger, arm, severely; James McPhutus, thigh, severely; Daniel O'Miltiman, side, severely; Perry T. Stivers, neck and shoulder, severely Frank Stowell, neck, slightly; H. D. Ely, knee, slightly; John R. Hammond, leg, slightly; George Williamson, chest, slightly.

Missing—Thomas B. Smith, Samuel B. Smith, Oliver H. Waite, Michael Kennedy.

Killed, 7; wounded, 15; missing, 4; Total, 26.

COMPANY F—NORTHERN LIGHTS.

Killed—H. R. Cary, John McNown, Franklin Prevay, Anthony Morse.

Wounded—Captain H. T. Train, in face, not serious; sergeant R. W. Pierssons, in thigh, seriously; corporal A. Dean, do do; corporal Stephen, do, do; corporal Joseph McMurts, in shoulder, badly; corporal George Speed, face, slightly; private J. F. Bennet, in leg, badly; Wm. O. Bassett, flesh wound in arm; Ebenezer Bonelsu, in shoulder; F. R. Brink, hip, badly, Geo. Birdsall, leg; John Duckwork, hip; L. S. Cloffin, face, slightly; Hiram Higgins, elbow; Archibald McCall, shoulder; John McIntyre, face; Sam Monroe, arm; Charles Moore, leg; Ole Nelson, leg; Sam'l Pluman, head; Edward Trimble, thigh, severely; Chas. Ellsworth, arm, slightly; Jonathan Ellsworth, wounded and missing.

Missing—Freeman Peacol; John Ferguson.

Killed 4, wounded 24, missing 2. Total 30.

COMPANY G—CHIPPEWA VALLEY GUARDS.

Killed—James N. Walker; privates Oliver H. Browning, Lewis R. Belknap, William Archer, John D. Francisco, John L. Henigan.

Severely Wounded—Sergeant Michael B. O'Connel, in the thigh; Andrew Chambers, through both legs; James Crawford, through the neck; John M. Jones, through the thigh; James Smith, corporal, through the wrist; Jackman P. Long, in the knee; W. H. H. Beebe, slightly wounded; Noah Barnum, slightly wounded; privates, John J. Pearsons, through both legs; Thomas McGillion, through both legs; Charles Francisco and Peter Francisco, slightly wounded; Sanders Cochran, through both shoulders; George Ritter, Wm. Smith and Geo. Odell, slightly wounded; John Tomlinson, in the leg; A. Loomis, slightly wounded; James O. Hatch do; J. B. Van Vlack, do; James A. Swan, do, Myron D. Bradway, do; Willard W. Bartlett, S. L. Benjamin, do.

Missing—Valentine Stock, Chas. Mauck, James Rands.

Killed 6, wounded 24, missing 3.

COMPANY H—TREDWAY FUMAS.

Killed—Henry Babcock, sergeant; privates Ornil Herrick, George Haskins, Geo. Lincoln, Charles Hodge.

Wounded.—David Dalrymple, sergeant; Asa D. Thompson, do; John Lamb, corporal; Richard Leigh, do; George J. Kashaw, do; Hezakiah White, do; David Collier, private; Liveous Raymond, do; Levi S. Bennett, do; John Blair, do; Hiram Bell, do; John W. Haskins, do; Edgar Weed, do; William Suring, do; Robert Sanders, do; Geo. Skeels, do; Frank E. Wicks, do; Chas. Bump, do; Hiram Nichols, do; Leander Roberts, do; Geo. M. Porter, do; William H. Rice, do; Robert R. Parks.

Missing.—Mills Redfield, Wm. B. Parks, Benj. Dean, Henry Parks.

Killed 5, wounded 23, missing 4.

COMPANY I.—DARLINGTON LIGHT INFANTRY.

Killed.—1st Lieut. Vail, shot through the breast; private S. Austin, shot in head; do A. Clifford, head and breast; do M. J. Wooding, shot in breast.

Wounded.—2d Lieut. D. Gray Purman, badly, side and arm; 2d Sergeant W. H H. Townsend, flesh wound in leg; 3d do Haughawout, in leg; 1st Corporal P. H. Dumply, spent ball, stomach; 7th do J. C. Long, flesh wound, leg; 8th do W. V. Turck, shoulder and foot; privates—Wm. Brewer, spent ball, arm; Geo Burchill, small of the body; F. A. Cherry, in breast; O. S. French, in hand; Jacob Fawcett, in shoulder; Michael Hanley, in side; H. C Hall, in the shoulder; H. C. Howard, shoulder; George Long, shoulder and leg; G. W. Pease, leg; M. J. Smith, shoulder; Thos. Pendergrass, wounded in the head; Lemuel Phelps, leg.

Missing.—John Weigli.

Killed 4, wounded 19, missing 1.

COMPANY K—QUAKER RIFLES.

Killed—Corporals Ephraim Cooper, W. A. Clark; Privates John Hennesy, Stod. Tousley, W. H. Tousley, Toos. Mannings, Gregory Janish.

Severely wounded—Lieut. D. F. Vail, in thigh; Serg't E. D. Bradford, in shoulder; Corp. O. G. Vollentine, arm and leg; Corp. S. Trumbul, in leg; Privates E. M. O'Neil, in leg and shoulder; B.

Walker, in breast; James Keever, in leg; J. Murphy, in head; J. Clark, in head; A. Collins, in head and breast; L. Nelson, in head; Corp. S. Gunther, in thigh.

Slightly wounded—Capt. G. C. Williams, on duty; Corporal G. W. Hedding, on duty; Private Wm. Cooper.

Killek, 7; wounded, 15; missing, —.

RECAPITULATION.

Killed, 47; wounded, 174; missing, 27.

List of Killed, Wounded and Missing in 18th Regiment Wisconsin Volunteers.

COMPANY A—TAYCHEEDAH UNION GUARDS.

Killed—McManus Garnee, C. A. Whitman.

Wounded—Lieut. Edward Coleman, Corp. C. C. Whitney; Privates D. C. Bailey, R. H. Hart, Marshal Collin, Leander Depuy, Ludwig Holsu, J. Koehn, Alf. Losey, O. K. Norris, G. W. Sparles, Adam Whiting.

Missing—Captain Millard, Sergeant John Farrell, Theron Mack, P. J. Alexander, J. B. Abbs, P. A. Hont, James Hallett, Beyou Kelley, Theod. Lemon, C. F. Scott, B. F. Smith, J. H. Shoemaker, Eli Higgins, H. D. Whitney.

Killed 2, wounded 13, missing 14. Total 29.

COMPANY B—EAGLE LIGHT INFANTRY.

Killed—none.

Wounded—E. Combs, W. H. Spencer, F. M. Bailey.

Missing—Lieut. T. A. Jackson, S. S. Frowe, J. L. Show, M. H. B. Cunningham, M. J. Bassy, C. E. Cottle, J. Davis, A. . Green, H. H. Ashcock, A. J. Lucia, R. Maguin, H. M. Wright, W. J. Wilder.

Killed, none; wounded, 3; missing 13. Total 16. Number in muster roll, 93—fit for duty, 64; sick 28.

COMPANY C—BAD AX TIGERS.

Killed—Private Wm. Kettle; do N. M. Saxton.

Wounded—H. Clary, W. W. Dielseman, Samuel Fisk, John Kirkpatrick, Hiram Moody, Patrick Mooney, Laughlin Ouiam, Benj Kants, J. J. Swain, Samuel Sager, Augustus Sluger.

Missing—Capt. M. Layne, Sergeant Tritwell, do. Dickson, Corporal Hickox, do McMichael, privates Campbell, Lander, Gray, James, Loucks, Metcalf, Merrill, McLelland, Mills, Powell, Ress, Taylor, Tooker.

Killed, 2; wounded, 11; missing, 19. Total, 32.

COMPANY D—NORTH-WESTERN RANGERS.

Killed—George Hicks.

Supposed Killed—Sergeant L. H Farr; Privates Eli P. Swert, Select Freeman.

Wounded—Corp. John Williams, Privates Ephraim Crecker, Henry Beach, Hugh C. Wilson, Jack Jewell, A. Stephenson, C. N. Sprout, Byron Carey, John Gary, Charles Merley, Ezra Hankabout.

Missing—Capt. G. H. Fisk, Lieut. D. W. C. Wilson, Sergeant Charles Clause; Privates Anthony Lamb, Andrew Alexson, Henry McGruff, J. G. Hunter, Milton Stewart, Gilbert Tuttle, Stephen Taylor, William Robinson, Amasa Smith, Ziba Hurd, A. Currier, James Osburn, Sen., James Osburn, Jr.

Killed, 1; Supposed dead, 3; Wounded, 11; Missing, 16; Total, 31.

COMPANY E—PORTAGE LIGHT INFANTRY.

Killed—Clifton S. Merrill, John Fields.

Wounded—Lieut. George R. Walbridge, Albert Taylor, George W. Evans, Walter Whittaker, Jos. Baker, S. R. Hayner, George S. Martin, Jr., Wm. H. Sherwin, John Harris, John Kinney, Isaac Levison, Reuben Edminster, Ed. L Kept

Missing—Joel S. Reedie, William S Blair, Thos. G. Bacon, S. W. Butterfield, John Dark, A. B. Doolittle, August Fast, Edward Hugo, Philip Marx, Truman Ri e, Robert Richards, Chas. H. Tucker, William Ward, Adam J Spawn,

Killed 2, wounded 13, missing 20—35.

COMPANY F—OSHKOSH RANGERS.

Killed—Otis A. Colton, R. N. McWilliam, Hartley Onderdonk.

Wounded—Geo. Dew, Andrew Felton, Eli R. Worthan, Jos. W. Lawplinn, D. M. Wilson, Henry Jenkins.

Missing—Lt. Geo. R. Stokes, Lewis Shery, J. M. Stanton, Richard Trexell, M. H Tenney, Henry Todd, Jas. Wolcott, Amasa Dille, A. J. Frost, J. S. Frank, Millard Felton, Gilbert Fisk, J. N. Houghlin, Mathias Hart, Frank Hanton, J. P. Honecker, Eern Hull, Stephen Hartwell, Levi Minkler, Homer Nichols, Richard Noble, A. B. Osgood, John Pearson, C. T. Rexford, J. H. Stiver.

Killed 3, wounded 6, missing 26—35.

COMPANY G—ALBAN PINERY RANGERS.

Killed—Capt. J. H. Compton.

Wounded—John Snyder, A. C. Loomis, Joseph Bullock, Alvin M. Coon, John S. Eaton.

Missing—Henry Jackson, Wm. Granger, Orville Hall, Henry M. Jackson, Maxim LaBinslep, died; Edwin McDougal, Augustus Otto, D. Wilcox, Mitchell Anquette, Joseph Gill, Peter Whitman, John J. Sherman, Dennis Murphy, died.

Killed, 1 wounded, 3; missing, 15. Total 22; sick, 32; fit for duty, 38.

COMPANY H—GREEN LAKE COUNTY RIFLES

Killed—E. H. Ballou, Clark, Walker, Joseph A. Gulash, Solomon Mansfield.

Wounded—First Lieut S. D. Woodwork, sergeant Albert Later, John H. Histon, Eugene Gay, E. F. Chamberlin, Edwin Potts, Samuel Bixley, Thos. Carey, B W. Coats, F. Deseile, Gideon F. Dens, A. F. Dond, G. W. Dond, Zaddock Malloy.

Missing—Captain D. H. Baxter; James Berry, G. Collingser, John Carey, W S. Cotrel, John Devord, Wm. Reed; Alvin M. Smith, Elias Sexton, Franklin S. Stevens, wounded, Chas. Spencer, Chas. Welles, D. B, White, James Winans, O. C. Blakely, J. Hanshaw, Abram A. Devose, wounded, Stephen Field, Enoch Foster, Orlando J. Harstraw, Hugh Hannab, A. Hickman, Collin Leach, Daniel Leach, Edward P. Osborn.

Killed 4, wounded 14, missing 25; total 43.

COMPANY I—LEWIS RANGERS.

Killed—R. Cronk, Benj. W. Shaver, Geo. W. Hillman, Morris C. Cook, John Louth.

Wounded—Peter McIntyre, Cornelius C. Devou, T Luskey, mortally, S. W M. Smith, E. M. Haight, W Miller, Duncan McCloud, Peter Calahan, Jas. Litel, Oliver Guiduse, Albert Turck, Frank Everson, Alfred O. Ellson, Adrastus Cross, Ferdinand Benton.

Missing—Lieut. Ira H. Ford, Lieut. O. A. Southmevd, S. C. Alban, Peter Mead, Geo. M. Dexter, Allen Church.

Wounded—Ole Leverson, Wm. Smith, Daniel E. Newton, Samuel E. Dale, John Cook, Jos. Brown.

Killed, 5, mortally wounded 2, wounded 15, missing 12; total 34.

COMPANY K—UNION GUARDS.

Killed—James Flyn.

Wounded—Fernando Councilman, Wm. P. Green, Wm. Lowe.

Missing—John Stumpf, Willis T. Sage, Jas. S. W. Pardee, Robert Baed, Benj. Colwell, H. Cummins, Jefferson Cummins.

Killed 1, wounded 3, missing 11; total 15.

RECAPITULATION FOR REGIMENT.

Of field officers, Col. Alban, killed; Major Crain, killed; Lt Col. Beall, badly wounded; Acting Adjutant Coleman, wounded.

Total in the regiment of killed and supposed dead, 24; wounded, 82; missing, 174.

RECAPITULATION FOR THREE REGIMENTS.

Total of Killed, 85; Wounded, 339; Missing, 203. Total loss of the three Regiments engaged, 627.

NEWS SUMMARY.

Dodge Co. Agricultural Society.—At the annual meeting of the Dodge County Agricultural Society, held pursuant to notice January 24th, 1862. Geo. H. Stewart, President of the Society in the chair. O. F. Jones was Secretary of the meeting.

The following officers were elected for the present year:

President—Thomas Marshall, of Oak Grove.
Vice Presidents—John C. Ross, of Trenton; Miles Burnham, of Elba; Prof. Wm. Lehmann, of Hustisford.
Recording and Corresponding Secretary—Charles Billinghurst, of Juneau.

The following named persons were appointed the General Committee for the county:

David J. Pulling, Fox Lake; Stoddard Judd, Fox Lake Village; G. W. Stanton, Trenton; C. S. Kneeland, Chester; Wm. Hobkirk, S. W. Waupun; O. Terry, Le Roy; J. G. Meyers, Lomira; F. W. DeLorme, Theresa; H. D. Phelps, Williamstown; M. S. Barrett, Burnett; Oliver Ashley, Westford; G. W. Henderson, Calamus; M. E. Babcock, Beaver Dam; H. Hawley, Beaver Dam City; F. H. Roper, Oak Grove; D. C. Van Brunt, Horicon; C. C. Brown, Hubbard; John R. Merrill, Herman; Dennison Baker, Rubicon; D. Fletcher, Hustisford; Wm. Christie, Clyman; A. Shipman, Lowell; J. W. Hartley, Elba; B. B. Chadwick, Portland; J. Higgins, Shields; H. C. Crandell, Emmett; S. M. Randall, Lebanon; Wm. M. Dennis, Watertown; R. Hassell, Ashippun.

The following resolution was adopted:

Resolved, That the Corresponding Secretary invite fruit growers and other persons engaged in enterprises of interest to the Society, to attend the Annual Fairs of the Society, and exhibit such fruits, productions, and articles, as they may see fit.

A meeting of the officers and General Committee of the Society is appointed to be held at the Court House, in Juneau, May 10th, 1862, at 1 o'clock, P. M. A full attendance is earnestly requested. C. BILLINGHURST,

Corresponding and Rec. Secretary.

The Wis. Ag. and Mechanical Association will hold their Annual Fair in Milwaukee, commencing on the second Monday of September next. It is to be general in its character, such as is usual at State Fairs, including a horse show and trial of speed.—Liberal premiums will be offered, and every exertion made to make it the Fair of the season. Premium lists will be prepared by the middle of May, and any person desiring one will please write to the Secretary, at Milwaukee, and one will be forwarded immediately.

By order of the Executive Committee.

M. L. SKINNER, *Secretary.*

Locations of Wis. Regiments, May 1st.—As some changes have taken place in the locations of our Regiments recently, we have collected the following information of their whereabouts at last accounts:

1st Regiment is at Pittsburg Landing.

2d, 6th and 7th, are in King's Div. with Gen. McDowell.

3d is in the advance of Gen. Bank's Division, last at Edinburg, Virginia.

4th is at this time undoubtedly with the Federal forces at New Orleans.

5th is in Smith's Division, Hancock's Brigade, now engaged in the seige of Yorktown under Gen. McClellan.

8th is in Pope's Division, which recently reinforced Gen. Halleck, at Savanna.

9th was at Fort Scott at last accounts.

10th is with Gen. Mitchell near Florence, Alabama.

11th is on Black River, Arkansas, in Gen. Steel's Div.

12th and 13th at this date, are at Fort Riley, enroute for New Mexico.

14th is at Pittsburg Landing—Col. Wood appointed as Provost Marshal and the Reg't acting as Provost Guard.

15th, Col. Heg is still at Island No. 10, where Col. Heg is left in command by Gen. Pope.

16th, 17th and 18th, are still at Pittsburg Landing.

19th is guarding "secesh" prisoners at Camp Randall.

Our Cavalry Regiments are all at St. Louis yet, waiting for horses and equipments. 1st Reg't is now fully mounted.

Van Deutsch's Cavalry are with Curtis' army in northwest Arkansas.

Badger Sharpshooters, Co. G, are with Berdan's Regiment at the seige of Yorktown, doing good service.

Our 1st Battery, Capt. Foster, is by this time, at Pittsburg Landing; the 3d, Capt. Drury, arrived there some time since; 2d, Capt. Herztberg, is at Fortress Monroe; 4th, Capt. Vallee, is supposed to be at the same place; 5th, Capt. Pinney, recently went up the river to Pittsburg Landing; 6th, Capt. Dillon, was at last accounts, about starting for the same place; 7th, Capt. Griffin, was at New Madrid waiting for equipments and horses; 8th, Capt. Carpenter, and 9th, Capt. Johnson, at Fort Riley, enroute to New Mexico; 10th, Capt. Bebee, is still at St. Louis filling up; 11th, Wisconsin Battery, (late Oconto Guards) Capt. O'Rourke, is attached to Mulligan's Brigade, doing duty at Camp Douglas, Chicago; 12th Wisconsin Battery, Capt. Pile, is at Benton Barracks, St. Louis.

1st Wisconsin Heavy Artillery, Capt. Langworthy, is doing garrison duty at Fort Cass, near Washington city.

E. B. QUINER.

The Markets.

CHICAGO, SATURDAY, APRIL 26TH.

Flour market quiet—buyers and sellers apart. White Winter extra, 5.10; good white winter, 4.90. Spring, extra, 4.30; other grades spring 3.00 to 3.90. Wheat market buoyant and advanced 1½c. No. 1 spring, sales at 79½ to 81; No. 2 spring, 74 to 75¾. Corn 29a30. Oats 23¾. Rye 44½. Barley 46. Potatoes, Neshannock, 44c. Butter, choice, new dairy, 11a13. Eggs 6¼.

MILWAUKEE, APRIL 29TH.

Flour—Receipts 872 bbls. Market firm, with light offerings. We note sales of 100 bbls. "Golden Sheaf" extra at $4.00, and 200 bbls. "Berlin City" do on p. t.

Wheat—Receipts 28,030 bushels. Market unchanged and quiet. The firmness of holders restricts business.—Sales included one car No. 2 at 81c in store; five cars deliverable next week at 82c for No. 2 and 85c for No. 1; 5,000 bus. No. 1 at 85c delivered; one car extra by sample at 87½c, and 133 sacks do at 88c.

Oats—25c delivered.

Corn—29a30c delivered.

Barley—50a65c for medium to extra.

Rye—42a43c delivered.

Seeds—Timothy $1.25a1.45; clover scarce and higher, held at $4.50a4.75.

Live Stock—Beef cattle $2.25a3.00 pr cwt., according to quality. No live hogs coming in.

Butter—Firkin 8a9c; crock and roll 9a12c.

Eggs—6a7c by the barrel.

Potatoes—Plenty; selling at 25a30c pr bus.

Wool—For medium to fine fleece 30a35c can be had.

EDITORIAL MISCELLANY.

☞ All communications, of whatever kind, intended ☜ ☞ for the EDITOR *should be addressed to him ex-* ☜ ☞ *clusively;* all *remittances of money and* all ☜ ☞ *business* letters, *to the Publishers.* The offices ☜ ☞ are separate and distinct, and attention to this ☜ ☞ request will save the Editor a great deal of time ☜ ☞ and trouble, while at the same time, it will di- ☜ ☞ minish the liability to mistakes.

A Practical Printer who can command $200, may hear something to his advantage by addressing this office.

We know of a fine farm for sale cheap, and on good terms. Who wants to buy?

The Editor off for Europe.—A line from Dr. Hoyt states that he should leave Boston for England on the Royal Steamer "Niagara"—on the 16th of April.

Back Numbers.—We can supply several hundred subscribers with back numbers of the current volume of the FARMER. Here is a good chance for our friends to do us a kindness. It is never too late to induce your neighbor to take the FARMER.

Seeds.—During the month past we have sent some choice varieties of Garden and Flower Seeds to those of our friends who have interested themselves in getting up clubs for the FARMER. Some of the seeds were new to us, and we hope to be remembered by those who reach satisfactory results.

Another year we confidently expect to have more *working* friends, and more who deserve favors in this direction.

Death of Gov. Harvey.—Since our last issue, the wing of the Dark Angel has overshadowed our Commonwealth. A hundred of our brave sons have laid down their lives upon the battle field of Shiloh, and hundreds are suffering in the hospitals under the wounds received in that deadly conflict, and sorrow and sadness reigns throughout the length and breadth of our State. With a noble and generous impulse, our Governor deemed it his duty to repair to the scene of strife with a corps of skilful surgeons and the necessary comforts and conveniences for the wounded of our Regiments. With a commendable energy, Gov. Harvey had attended to the duties he had imposed upon himself—had seen that the dead were decently buried, and had given every attention to the wounded. Considering his labors completed, he accordingly made preparations for his return home. It appears that over ruling Providence had decided otherwise, and that he was then to conclude his earthly career. While awaiting the approach of the steamboat which was to take him and companions down the river, he inadvertently approached too near the unprotected side of the steamer, when his foot slipped, and in an instant, he was struggling in the waters of the Tennessee. Attempts were made to rescue him, but the current was so strong that he was instantly taken out of reach, and is supposed to have been drawn under one of a number of flat bottomed barges, astern of the steamer, and was seen no more.

It is impossible to describe the feeling of unutterable sorrow that pervaded the offices of the Capitol on the receipt of the melancholy intelligence of Gov. Harvey's death. Tear drops stood in many a manly eye, and many a manly heart gave utterance to the great sorrow. One of our long time companions had fallen—he who in our daily routine of duties, had met us with a good natured greeting—he whom the people of our State had but recently honored with the highest office in their gift—had fallen before the Insatiate Archer, Death! The public offices were closed for the day, and every one in the Capitol felt that a great calamity had fallen upon our people. The same degree of sorrow prevailed the whole community, our business men closed their stores, flags were at half mast, and half hour guns were fired in the Park in honor of the illustrious dead.

In the death of Gov. Harvey, at this time, our State labors under a great loss, as the experience he had gained in the management of public affairs, in the present crisis of our nation, was invaluable to the interests of the State. He has passed from among us, to be with us no more, although it is hard to realize it. He died with his armor on, in the strength of his manhood—died with a glorious and bright future before him—died in the performance of a noble purpose, in the alleviating of pain and anguish, and in smoothing the pillow of the dying heroes of the battle field of Shiloh. A good man could not desire to die in a better cause.

Immediate steps were taken to recover the body, but up to the date of this writing, (April 28), it has not been found.

Gov. Salomon.—In consequence of the death of Gov. Harvey, Lt. Gov. Salomon, by the Constitution, becomes Governor of the State. Although Gov. Salomon has not had much experience as a statesman, he possesses that kind of material which bids fair, by a little study into State affairs, to make a popular Governor. Fortunately he is surrounded by those who have been connected with the administrations of Gov.'s Randall and Harvey, and are experienced and informed in all matters connected with the military affairs of the State, of whose services he will avail himself, which will render the new labor imposed upon him, comparatively easy of accomplishment.

Gov. S. entered upon the duties of his office on the evening of the day of the receipt of the intelligence of the death of Gov. Harvey.

To County Ag. Societies and Agents.—We are making arrangements to furnish sewing machines and melodeons to our working friends, and those County Agricultural Societies who send us clubs of dollar subscribers. For one hundred dollar subscriptions, we will furnish a sewing machine worth $35; for one hundred and fifty dollar subscriptions, a machine worth $53; for two hundred dollar subscriptions, a machine worth $75, or a melodeon of the same value. Suitable rewards will be made for more than two hundred, in sewing machines or melodeons—less than one hundred, the premium will be cash or agricultural works at wholesale rates.

We hope the County Agricultural Societies will bear this matter in mind in the formation of their premium lists for this Fall's Fair.

Portage City Seed Store.—W. Caswell has a full list of Imphee, Sorghum and French Sugar Cane Seeds—genuine and just imported. Grass seeds and clover in variety; Vetches or Tares; Tobacco seed; Chiccory; Imported Ruta Bags and Turnip seed; Genuine Bi Sulphate of Lime. Seeds sent by mail, 1c. per oz.
Address, W. Caswell, *Portage City, Wis.*

Dane Co. Gazeteer and Business Directory, is the title of a new work which is being prepared for the convenience of the business public by Messrs. J. W. Waterman and Ira W. Bird. We are informed that the work is in press and will be ready soon. Of course, it will be indispensable to every business man.

Arrearages.—To our *delinquent* subscribers we would say, that our monthly bills must be met promptly, in order to insure a prompt issue of the Farmer by the 25th of the month previous. *Remittances* never come amiss. The Almighty Dollar alone will make the machine run smoothly. *Send it by mail.*

Emancipation in District Columbia.—The bill abolishing slavery in the District of Columbia, was signed by the President and has become law, so that the Capital is now freed from the curse of slavery. A glorious deed.

Poland Fowls.—Mr. E. D. Perria, of Oconomowoc, has a half a dozen Poland fowls which he will dispose of at 50 cents each. He thinks they are pure breed.

CORRESPONDENCE.

Ed. Wis. Farmer—*Sir:* I have been a reader of the Farmer for several years, and think the investment has been an entertaining and profitable one: and not the least entertaining feature in it to me, are communications and information from practical Brother Farmers. Now I not only gratefully receive, but have been willing to give something in that line, but from my former success in communicating with the Farmer I have concluded that perhaps I could write nothing that was worth taking notice of.

I once wrote to a former Editor an article, (to save melons from the ravages of the striped bug,) said article, *I thought*, was beautiful in morals, correct in philosophy, proved by experience, and within the reach of all: but I have never heard of it since, nor I presume many of the readers of the Farmer; and as a consequence, while others are mourning that the bugs have destroyed all their melons, I keep thousands of bugs in my garden all summer, yet have plenty of melons for me and mine, and to treat my friends. At another time I wrote an article on the cultivation and manufacture of Sorghum. (I have beat everything that I have ever heard of in the Farmer in the amount of syrup to the acre, and think that I can make better syrup than any other man in this county.) I heard nothing from said article until it was out of season, and not until my brother had had a "passage at arms" with the editor, when it was sent to David instead of Thomas, one blunder, confessing that it had been mislaid, another blunder, and promising to publish it if he would revise it to suit the season. I thought it not worth my pains to write to such blunderers and there was an end to that.

I did not intend to write half so much when I commenced, but am not quite through yet, and shall be obliged to turn over. Now, judging others by myself, I come to the conclusion that it is too much of a job for us hard fisted farmers who do not touch, nor perhaps see a pen, once a month, to arrange our thoughts on paper only to have them mislaid and slighted. Only acknowledge their receipt—if they are not in proper shape, nor cannot be easily made so, why just say so—or if they are superfluous, let them know it. This silent contempt we don't like to excuse. Are these the reasons why you have to urge your patrons to write? Are these the reasons why readers of the Farmer are deprived of many gems of practical matter-of-fact experience? If so, I hope the barrier may be removed: not that I expect to write much in any event, or think it any privilege to do so, but I want to hear from every body else.

Yours truly, &c., Thomas Sears.
Monticello, Wis.

[We hope our friend will not be discouraged by his

former apparent difficulties in writing for the press. We shall endeavor to profit by his strictures, and guard against future charges of neglect to our correspondents, If we do not give their articles in full, we shall endeavor to give their substance, at least, under the head of Correspondence.]

FRIEND HOYT:—In these hard times it avails nothing that the farmer invites to his aid the assistance of science and raises the greatest quantity of produce at the least expense as long as the exchanges, managed by a den of thieves, absorb all the profits. Between the producers in Wisconsin and the consumers at Washington, the price of flour is enhanced three-fold by carriage, cartage, wastage, storage, clerkage, commissionage, and pillage. Railways without gaps have become a commercial as well as a military necessity. If one city is permitted to break up the unity of railway communication, why not every paltry village. It is absolutely necessary that a union depot be located at Washington for the star-radiation to every State Capital in the Union, that the mails may be delivered without reloading. The trouble of transacting business must be reduced to a scientific basis. How long shall we go through the circumlocution office of selling 60 pounds of wheat and weighing 100. A decimal system promulgated 2300 years ago by the Omnicient ("The bath shall be the tenth part of an homer") would be a very great saving in time and trouble. Our duty to the Creator of our intellects demands the enactment of laws founded upon the Maine resolutions for a uniform decimal system of weights, measures, and currency.

What shrewd penny-a-liner is the author of the oughs and aighs as he ploughs through the tough hiccough. He appears like one of the followers of Elymas whom Paul called "a child of the Devil." It would be advantageous to the cause of education as well as exchange, that our county superintendents get up a uniform map of Wisconsin. Why have we Michigan and Oshkosh, (*Oshcosh*), Oshkosh and Wisconsin, (*Wiskonsin*,) (Ouisconsin).

Hoping you will give us the benefit of your matured judgment on these knotty points, I am yours, J. EDI.

VERONA, Wis.

Sorghum Juice.—*Mr. Editor*:—Have you ever noticed the difference in the results of sorghum juice, when the cane is squeezed fresh from the field, and when it has been stacked for a while? If you have not seen a statement, would you call for one through your journal, of those who can speak understandingly of the facts?

My theory ever has been, that the cane protected from light favors the conversion of the pecula into sacharine, (such the German chemist Anhard, and others, found, seventy years ago), and as stacking up after being cut would exclude light, so it might aid the elaboration of the saccharine. If such be the best mode to treat sorghum, as obtained from practical people, then practice and theory coinciding, will enable the public to know how to treat their cane crops. Respectfully yours,

W. CARSWELL.

PORTAGE CITY, April.

☞ Mr. John Burrows, of Fond du Lac, under date of April 10th, enquires—"If it comes within the jurisdiction of the FARMER, I should like to know by what process mushrooms are raised?"

NOTICES OF NEW ADVERTISEMENTS.

J. M. Thorborn & Co., New York, appear in our pages this month with another advertisement. The reputation of this firm is world-wide, among the craft, and we assure our readers that purchases made of them may be relied on.

Kind reader, do you feel like indulging in a new buggy or carriage, or is your old wagon used up, and require repairing? If so, John B. Wiser, who advertises this month, is just the man to supply your wants. We know the man and his work, and speak understandingly when we say that he turns out just as good an article in his line as any mechanic in the country.

For leather, shoe findings, harness, saddles, &c., our readers will find an excellent assortment at George V. Ott's store, under the Dane Co. Bank. See his advertisement.

E. W. Skinner, this month, uses our advertising columns for the purpose of introducing the Brockport Harvester. Mr. Skinner has commenced the manufacture of these machines at his foundry in this city. Home manufacture, at this time, should be specially encouraged, and we recommend our friends to visit and inspect the machine of Mr. Skinner.

He also advertises an excellent pattern of Sugar Mill. The success of the sorghum in producing good sugar rests greatly upon the facility of grinding the cane and pressing out the juice, and the machines which will best accomplish that purpose should be used. From the reputation of the article made by Mr. Skinner, we are led to consider it one of the best in use. The making of sugar from the Imphee and Sorghum can no longer be considered problematical. It has become a fixed fact.

Burson's American Grain Binder, advertised this month, is a new candidate for the patronage of the Farming public. We shall speak further, when we see its operation.

Now that the season has come round for active operations in the field, it would be well for our readers to look through our standing advertisements, and refresh their minds as to what our advertisers are ready to supply them with.

There is P. L. Carman, who deals in Pitts' Separator and Horse Power Threshing Machine. Dickinson & Bartels, at the Farmers'Store, are well stocked with seasonable goods. Louis Sasse & Co. will supply you with anything in the line of carriages or wagons. Kohner is filled up with a splendid stock of clothing and other decorations fer the outer man. Waltzinger is ready to supply any of the knick knacks, in which he deals. If you are building a new house, or need lumber ready planed,—doors, sash, or anything in that line—Asa Burgess, at the Planing Mill on Washington Avenue, near the R. R. Depot, is in full running order to supply you. If you want

THE WISCONSIN FARMER.

J. W. HOYT, : : : : : : : : : : : EDITOR.

VOL. XIV. MADISON, JUNE 1, 1862. No. 6.

Work for June.

Farmers, generally, have their sowing and planting done by the first of this month, unless some bad weather has hindered the work, or something else occasioned unusual delay.—Many, we doubt not, will find themselves planting in this State during the first week in June, from the fact that farming operations were hardly begun until after the tenth of April, while much of the wheat crop of 1860 was sown in March. This year most of the wheat has been sown at least three weeks later.

Those who have not finished planting will do well to make no delay in getting their seed into the ground, and especially corn, which will not be likely to ripen if planted after the first days of June, unless it be the King Philip or some other hardy kind. This we have known to ripen in Minnesota if not planted till after the first of June.

Beans are generally planted after the first of June, and seldom fail to ripen. Many farmers plant their beans too far apart, for economy in regard to land or tillage. Two and one half feet apart for the rows, is ample distance, with the hills one foot apart in the rows or sown in drills. In this way they may be easily tended with the horse, by using a single shovel plow and a horse hoe. No work of any kind should be done about the beans when wet by dew or rain. People may spoil their beans by ignorance of this fact or paying no regard to it.

Potatoes may be planted quite late in June, if they were not put in the ground sooner.—They will not be so apt to make a good crop as those planted four or five weeks earlier.

Carrots we generally put in the fore part of June, on land just plowed. In field culture the rows should be far enough apart to admit the horse hoe. On smooth and well prepared land two feet apart will answer all purposes.

Beets should be planted in the same manner, and they may be planted also the fore part of this month. If planted in May, however, they will be more sure to attain a large size, which is very desirable when raised for feeding stock.

Beets, as well as carrots, will come up in half the time, or less, if the seed is soaked, which, as we stated in our hints for May, is liable to be spoiled if not properly done.—Soaking or scalding seeds is in very many cases really dangerous business. We seldom soak our seeds, except when the time of sowing is late and the ground in good condition. If the earth into which the seed is planted be dry, you are pretty sure to have it dryed up after sprouting, while if the seed is put into the ground dry, it will remain in good condition until the rain comes to moisten it.

Sorghum and Imphee, if not planted in May, should be put in without delay, as it needs all the season in which to grow in our latitude. When planted as late as June, we advise sprouting the seed well, and should the ground be dry, it must be covered quite deep with moist earth, or it will be dried up. The ground should be plowed but a few days before the seed is planted, or the weeds will give you trouble. Do not fail to keep this in mind.

Ruta Bagas should be sown by the middle of June, on land well prepared and brushed in. If possible, sow just before a rain. On new ground they may be sown broadcast, but on old land it is better to put them in drills far enough apart to admit the horse and cultivator

or horse hoe. We think beets and carrots more profitable to raise on old land than the ruta baga. They are also a more sure crop and easier to cultivate.

DOWN WITH THE WEEDS.

Hoeing must be commenced in earnest this month. Great care and much labor is needed to keep these pests of the farm and garden under subjection. The hoe, with the cultivator or plow must be set in motion just as soon as the things to be wed can be seen in the rows. In June we have a struggle with the weeds, and if the horse is not kept moving and the hoe continually going, the crops may be so impaired as to be hardly worth harvesting.

This month, therefore, is, with many things, the turning point. The growth of everything is very much hastened by stirring the ground early and often, even should the land be free from weeds.—*Farmer and Gardener.*

Dairies and Dairy-Farming.

The importance of dairy-farming, though generally considered as occuping a secondary degree, is so universally admitted, that it requires no apology for giving the subject a prominent notice.

The dairy is a branch of rural industry deserving of attention in the highest degree.—There are no other means known to us, by which so great a quantity of animal food can be derived for human support from the same space of ground. In many of the counties of this State, and in most of the middle and Northern States, the production of this kind of aliment is immense, and its entire value forms no inconsiderable proportion of the produce of the land.

There is no class of persons by which milk, in one or more of its forms, is not used.—Cheese may seem to be a mere superfluity to those who feed largely on other animal food; yet even among this class, the consumption, from its regularity, is considerable, but among the far more numerous classes, to whom cheese is a part of their customary diet, the consumption of this substance is very great. Butter is used in almost every family above the poorest, to an enormous extent. Simple milk, too, enters into the diet of every class, with this peculiarity: that it is consumed in a larger quantity in the rural districts than in towns and cities.

No other branch of rural industry produces so large a quantity of animal food, from the same space of ground as the dairy. Surely, since the demand for dairy produce exceeds so considerably the supply, it consequently must be of the highest importance to increase that supply by every means that can be adopted, which would not injure or materially interfere with other interests of great importance.—This country, or rather, particular sections of it, has long been noted for the produce of the dairy—both cheese and butter—in which few sections have been able to rival us. The process of making these articles, it is true, in other States or sections, differs somewhat from that generally adopted among our own dairy farmers; but this is not always sufficient to account for the difference in quality which exists, since it is not an unusual thing to find dairies in different parts of the country conducted upon precisely the same plan which furnish products of very different qualities. When such is the case, this difference must be in consequence of one or the other of the two following reasons: either there must be a difference in the breed of cows employed in the dairies, or else the quality of food upon which the cows subsist must be materially different. It behooves, therefore, persons interested in dairying, who perfectly understand the modes adopted in those districts where the produce of the dairy farms are held in the best repute, to apply themselves diligently in the discovery of the cause why their dairy productions are considered inferior to the products of others probably at no great distance from them. We do not presume to say that the defect could be easily or in all cases remedied at all; because, where it was ascertained to proceed from a difference in the herbage upon which the milch cows pastured during the summer, it might be found impracticable to assimilate the herbage of the one to that of the other; or least this could not be effected permanently, nor at all, unless at a very great expense. But where the inferiority was ascertained to proceed from a difference in the kind of stock, where the dairy is the first consideration with the farmer, this defect should speedily be remedied.

Something depends, no doubt, upon the climate, since extremes of heat or cold are known to be prejudicial to the dairy; although in the warmer latitudes, cheese, and sometimes even butter, is made, neither of them would be considered fit for human food in the more refined and more famed countries for dairy purposes. Something also depends upon the manner in which the dairy house and cheese-room are constructed; and probably less attention is bestowed upon this point among our dairy farmers than it deserves, or which it obtains in most other countries where the management of milk is carefully attended to.

The great point in making good butter, and that which will keep, is the freeing it from all butter milk; and if everything else is well done if this point is overlooked, good butter is impossible for any length of time. The mixture of milk in any degree with the butter is

sure to produce frowiness of an unpleasant taste to the butter; and the entire freedom from this constitutes the grand secret of making good butter. There are many who think washing butter with water incompatible with retaining the rich flavor; but if the water is cold and pure, it is scarcely possible anthing should be washed away—the buttermilk which destroys the flavor of all butter, and that which in all markets commands the highest price—viz., Dutch butter—is invariably made in this way; and where the example has been followed by others, it has rarely failed of success. If any, however, doubt the propriety of washing butter, they may use any method they please, provided that the milk is separated perfectly. Entirely free from the substance that causes it to assume the putrid, frowy taste of bad butter, it may be kept with almost as much ease as lard. Solidity in packing, clean, sweet vessels, and a low temperature, will ensure its keeping for any reasonable time. Let no one expect good butter, however, as long as coarse, impure salt is used, or a particle of the buttermilk is allowed to remain in it.—*Genesee Farmer.*

Use the Straw for Manure.

Mr. Editor:—Taking an interest in our Wis. Farmer, I wish to scratch a little more of my experience. I believe if all were interested as they should be, we might give and receive much information that would be a great benefit to us. When I first came to this country, it was the practice of the farmers to burn their straw piles. I questioned the propriety of such a course, but was told that the straw was of no value for manure; and I have found by trial, that owing to the dryness of soil and climate, it is not as beneficial for sowed crops as in the eastern States. By trial, I have found that for corn it is the very thing.

I save all my straw, and in the spring I draw out my straw and dung, on land laid out for corn, and cover the whole ground, then plow deep, and cover the straw as well as I can, and, without disturbing the ground with drag, I put on my roll and press down the soil upon the dung, which leaves it in a good shape for marking, then mark both ways and plant; if well tended, it will insure a good crop. I have never failed of a heavy crop in this way. I tried a piece last year, in this way, on a piece of ground where the stone quarry gravel was so thick that it was very difficult to keep the plow in the ground. I had five acres, and the result was 400 bushels ears of good corn. For two or three years this ground had been nearly worthless. After corn I raised a heavy crop of barley, the soil still remaining in good condition for wheat. I move my corn field every year, thus securing a rotation of crops, and in this way my farm is kept in good condition till I come around to where I commenced. If I wish to seed to clover and timothy, the barley crop is the one with which to seed; the grass seed should be sowed on and dragged in with the barley, which gives it deep root and does not kill with the drouth.

The secret of this kind of manuring is, that in cultivating the ground there is a nitre created which the straw absorbs, forming a very rich mould, there is no danger of the corn suffering with drouth. I heartily wish the ruinous practice of burning straw could be discontinued and thereby save many regrets in future when we shall surely be convinced of our error. R. Macomber.

La Prairie, Wis.

Action of Manures.

D. M. Sargent, Esq., of Warner, N. H., in communications to the New Hampshire *Journal of Agriculture*, has broached a few new ideas in regard to the action of manures. He assumes that plants derive more food from the atmosphere than from the soil, and that manures act as much out of the soil as they do in—that there is more food for plants in whatever we feed to our animals before it is eaten than there is in the excrements made from it. He also believes that light is absorbed in plants, thereby giving them color, and that caloric is also absorbed and retained by them thereby enabling them to give it out when burnt.

Without vouching for his correctness in all the positions taken, we will give one or two experiments he relates in reference to the absorption of ammonia by the leaves of plants:

"Ammonia, I think, beyond a doubt, is absorbed from the atmosphere by the leaves. Fill a flower pot with sand and plant a seed corn if you please, it will germinate and grow very slow, look yellow and stunted, perhaps die in a little time if nothing is done for it. But take a phial of spirits of ammonia, insert it in the sand with the mouth up and the cork loose enough for a small portion to escape, and the plant will soon turn dark green—that peculiar green that farmers like so well to see. Hide the light and it will soon turn yellow, and

finally, nearly white. Exclude the air, and admit the light, it cannot grow.

"Take a wet spot of earth, so wet that corn will hardly germinate, prepare it as you would to plant corn, drop in nothing but gypsum, and that in only part of the holes so prepared, cover them all up, and smooth with the hoe as you would in planting corn, and after a time I can tell every spot where the gypsum is buried, and can tell if it were dropped in a bunch, or scattered, by the fact that something white will collect on the surface, corresponding with the plaster below. But if you put in corn, the white powder will not be there; it will be absorbed by the growing plant. What this white substance is, I do not pretend to know, but I think, beyond the possibility of a doubt, that it is extracted from the atmosphere. Now the question arises what part of the plant absorbs this white substance; is it the roots or leaves? I believe it to be the growing blade, predisposed thereto by the action of the escaping ammonia from the earth or the manure applied, and here comes in the effect of light, mixing, and perfectly combining with the ammoniacal, and other gasses afloat in the air, and absorbed by the leaves, and with those drawn from the soil by the roots forms those healthy green juices which give color to the plant, and which are absolutely necessary for a full development of the plant.

"I have come to the conclusion that light is matter; therefore has a body. It is absolutely impossible to grow plants without it, but if it does not combine with, and form a part of the plant, we could grow them without it.

"Again, light is absorbed by everything with which it comes in contact; if it is not so, what becomes of it when the sun is gone? Therefore it is absorbed by plants, and as it has a body it must increase their volume.

"Again, ammonia in its relative state, predisposes plants to absorb light, heat, air, and all other gasses that are necessary for their perfect development, while it adds to the bulk of the plant, by its own matter; therefore manures that contain it should be so applied as to have the most direct influence upon the plant out of the ground, while the juices will descend and act upon the soils and roots. But if we bury the manure so deep that nothing can escape to act upon the plant out of the soil, our crops must be small and our manure wasted, and our labor profitless."

Haying.—It cannot be expected that all farmers practice alike. Some cut their grass very early—others very late. Some are in favor of thorough drying and letting it have the benefit of the sun to sweeten it.

Some men pack their hay in air tight barns, and in the Spring complain that their cattle cough, and are threatened with fevers. The idea of keeping clover grass in the shade to be cured is still advocated by many, though we see no reason why clover should be kept from the sun, while other hay is admitted to be sweetened by it.

Clover should be quickly dried, because it does not shed rain well when cocked up in the field. When cut in due season and well cured, cattle will eat the stems as well as the leaves. When a few leaves drop off in drying their loss is trifling compared with the loss of the stems for want of proper care.

If it is past the middle of July, the grass does not need so much drying as it did on the first, yet a portion of two days is necessary to fit it for the mow, even where the barn boards are so far apart that you can see through the crevices.

Ploughing among Corn, &c.

Some farmers have boys who may, as well as not, ride and guide the horse among the rows. But when no boys are about it is quite an object to have a horse so taught that he will go between the rows without a leader or a rider. It often saves the labor of one man to lead.

Some farmers make it a practice to put on long reins and manage the horse as they do in a chaise. But this is not equal to a handy horse without long reins—for on coming around at the end of the rows the horse will blunder on to the corn, potatoes, and beans, oftener than he will when let alone and being governed by the voice of the ploughman.

A horse is not to be taught at once how to go by the sound of his master's voice. Repeated teachings are as necessary for him as for boys who ride him.

A great majority of our farm horses may be taught to follow the rows without a driver in case the master has a little patience, and does not, at first, require too much.

All horses should be made to know the meaning of the word "whoa" before they are offered for sale. In carriages and chaises the reins often fail. The hostler may be careless in putting on the harness. Then how important it is to be able to stop the animal by the use of a single word!

The ploughman should always have blinders on his horse while at the plough—whether or not he uses them in other cases. And we admit that all horses should be taught to go without blinders whenever the master chooses, in order that he may see objects more clearly, and learn that they will not hurt him.

In teaching a horse to work without a rider or a leader, it is of the utmost importance to treat him kindly. Harsh language will not answer when you give him the liberty of working without reins. After he has been led a few times across a corn-field, let him go between the rows without a leader, though a man may go a few times by his side, a little distance from him.

Should the horse miss the row speak to him plainly. Say *haw* or *gee*, as the case may re-

quire. If he does not mind, call on him to stop, and second the call by running the plough or cultivator deep into the soil.

Then go to his head, and speak as kindly as possible. Put him on the right track again—and when he deviates, as he will often do, forgive him, though he may go wrong seventy and seven times. He will at length learn to keep the track—and he will soon learn to come round at the ends of the rows without trampling down the corn and other plants. He will do less mischief than he will when he is pulled about by a rein.

What do we Drain For?

This question will be answered very differently by different farmers. The most common idea is that the object in draining is to carry off the surplus water. This idea is good enough as far as it goes, but it is but one of the many benefits derived from draining.

If a lighted candle be held at the outlet of a good tile drain, we will find that there is a very strong draught inward and that the strength of this draught is proportionate to the length of the drain. Here then is a supply of air rushing up the drain, but what becomes of it? It passes out through the soil to the roots of the plants growing thereon. This supply of air from below causes the roots to run deep, and thus enables the plants to withstand a dry season.

It is a well-established fact that any soil is greatly benefited by water passing through it; hence the benefit of rain. On drained land, the rain-water, instead of running off and washing away the soil, sinks readily, and as it opens a passage through the soil is followed by the air from above.

It seems to be a fixed idea that "it will not pay" to drain land on which the water does not stand after a rain; but in England, where draining has reached a high state of perfection, it has been found that *any* land may be much benefited by draining. In addition to the above-mentioned benefits, the following may be enumerated:

It prevents the winter-killing of the crops, such as wheat and grass. Wheat and grass are often killed or injured during the winter by the water in the soil freezing and causing it to expand. This tears and injures the roots of the plants. Good drainage removes this water, and thus obviates the evil.

Draining is equivalent to lengthening the season, for the soil warms sooner in the spring, and does not part with its heat so soon in the autumn as undrained land. Thus, drained land can be worked without injury much sooner in the spring, and much sooner after a wet spell, than undrained land.

We know that when water evaporates, it carries off a large amount of heat. In undrained land a large proportion of the water at or near the surface is evaporated, and robs the soil of a large amount of heat which should benefit the crop. Where the land is drained, this water, instead of being evaporated near the surface is carried down through the soil, and discharged by the drain. After a shower, the water on the surface sinks to the drains, and is soon carried off, but by its passage through the soil it opens the pores of the soil, and as soon as the water is gone, they are filled with air from the surface and from the drain. All soil contains various metallic salts which are injurious to vegetation; the air by coming in contact with these converts them into *oxides*, which are either beneficial to or do not affect vegetation. The air has the power of decomposing any vegetable matter it may meet with in its passage through the soil. A warm rain falling on a drained soil sinks through, and imparts its warmth to the soil.

Some would be disposed to think that it cannot be a good plan to remove the water from a soil during dry weather; but practice has proved that drained soils suffer much less from long-continued drouth than those which are not drained. This is easily accounted for: the air which passes along the drain is charged with a large amount of moisture, which it imparts to the soil while passing through it.

Many soils contain a portion of the sulphate of iron; the air coming in contact with this compound will impart to it an additional proportion of oxygen, and thus form a peroxide of iron. The sulphate is injurious to vegetation and the peroxide healthful.

It has been found by repeated experiments, made in England, that the cost of judicious draining is repaid every three or four years. The average cost of draining English land is about $30 per acre. If this would increase the wheat crop but five bushels per acre, it would give an interest of 25 per cent. on the cost, or would repay the outlay in four years. Draining is very beneficial in the North, where the seasons are short; for a crop on drained land will ripen ten or fourteen days sooner than one on undrained land. Another benefit of draining is the improved health of the country; which is a very important consideration with, AGRICOLA, in *Germantown Telegraph*.

Farmers' Gardens.

It is a fact too patent to require argument, though realized by few, that the gardens of most farmers are by no means what they should be. This is more particularly observed by those who make gardening an exclusive business. Too little attention is paid by the farmer to this branch of his industry. Upon how many farms of two or three hundred acres is the garden limited to half or even to a quarter of an acre; and this, how often, nothing more than a sort of *home patch* of the same things which are produced from the fields, with the

advantage of a little earlier maturity. A few things, it is true, find a place here, which cannot be planted in the fields with profit or convenience, such as several kinds of herbs, some roots, and perhaps a few early cabbages.—How remarkably innocent is the ground of any likeness to a *garden*. There may be men whose ideal of a garden is filled by that which they so designate, but it must certainly arise from a lack of observation. It would most unquestionably do these men good to journey abroad, if for no other purpose than to cultivate their conception of proper gardening.

That it is no part of good husbandry and very bad economy to bestow so little care upon this part of the farm may be easily seen by any one who will give the slightest thought to the subject. The larger a man's farm the larger should be his garden; and let the farm be of whatever size, the garden should be well cared for. The man who farms on a small scale ought to see to it that he raises as much as possible from the garden, so that he may save the profits of his farm to apply to other uses, and if possible add something to his income by the sale of whatever he can spare. The man who owns hundreds of acres and employs several men has need to make his garden tell in the economy of the kitchen. He, surely, has the means of making much of his garden. He has the manure, the land, the men to work it, and to consume its products. To take care of it, if rightly managed, will not detract just so much time from the labor of the fields. Set it down as a fact, that any time during the summer, when a leisure hour occurs which cannot be profitably spent elsewhere, you or some of your men may work in the garden to good advantage. And let it be so managed that two or three crops shall be taken from the soil. This can as easily be done as to get only one. Odd spells are continually occurring, and let some crops be put in early, and a succession of the same be kept up at intervals of a week or ten days, somewhat according to your convenience; and let others follow in their season.

You will then soon enlarge the ground devoted to garden purposes, give it better cultivation and more skillful management; eat of its fruits, you and your household; so shall your pork and beef barrels be lengthened out and your measures of meal enlarged.—P. P. *in Homestead.*

Weeds, Bushes, &c.

Mr. Printer:—Declare unceasing war against weeds; cleanse your lands thoroughly, no matter what the labor or expense—and keep them cleansed. Few are aware how much nutriment they abstract from the soil. When the corn, or wheat, or potato crop fails to realise our expectations, we vent bitter invectives against the soil, or the season, or the seed, overlooking the fact that the weeds have been silently yet sturdily at work in pillaging from the treasury whence alone the aliment necessary to their development can be derived. If we must cultivate weeds, let us, by all means appropriate to them a certain prescribed portion of our soil, and keep them there. But the man who should do this, would be regarded as insane, while he who permits them to overrun and strangle his corn and other valuable crops, is regarded as anything but a fit subject for a straight waistcoat.

Every inch of your enclosed lands should be turned to profit,—made to produce something of value. Therefore, remove all the stumps, stones, and bushes, that encumbereth them.—August is the best month for the destruction of briars, bushes, &c.; but weeds, stones and stumps should be attacked at all times.—An Old Farmer *in Ger. Telegraph.*

Agricultural Capital.

What in the hands of the farmer constitutes capital? With the merchant, cash is capital; with the land speculator, land is capital; with the farmer, cash, land and stock are capital. Nor do these constitute all a farmer's capital—many other items, too often overlooked, also form capital, such as implements, manure, and, most of all, labor.

Capital is either productive or non-productive; a million of dollars in gold or silver, or one thousand acres of unproductive land may be capital, but while it remains in this state it produces nothing, and the owner may be actually growing poorer.

Increase in wealth does not depend so much upon the amount of capital as upon the use made of it; and in nothing is this more plainly shown than in farming.

There is many a farmer who commenced on fifty acres; on this he annually expended twenty per cent., in manure, labor, &c., &c., and the produce was perhaps forty per cent.—Encouraged by this success, he adds fifty acres more, but does not proportionally increase his *active* capital, and the *profits* are lessened in proportion. Still he has not land enough, and buys more, still adding very little or nothing to his active capital. The consequence is that while on fifty acres he made forty per cent., on five hundred he would realise nothing. He has converted his productive into non-productive capital.

There is nothing more true than that the inordinate desire for large farms has been the ruin of thousands.

It is true that a large farm *may be* made as productive as a small one; but to do this there must be expended on it an amount of active capital, in the shape of manure, labor, &c., in proportion—a thing rarely done.

Let no one undertake to have or hold more land than he has capital to manage well.

We hear a certain class of farmers (so-called) say they are "too poor to buy lime," "too poor to buy cattle" to make manure. These are the kind who have too much land. Such a farmer, holding one hundred acres, would find it more profitable to dispose of fifty, and expend the proceeds as active capital on the remaining half.

What is the use of capital if it is not to expend it so that it may increase?

If a farmer has surplus capital, the best manner in which he can invest it is in lime or manure for his farm. If he cannot get six per cent. from it in this way he does not deserve the name of farmer.

If a farmer has fifty acres, with a soil only six or eight inches deep, instead of buying more let him double what he has, by doubling the depth of the soil.

Draining makes a good, permanent and safe investment for surplus capital. Such investments not only pay an interest as they go along, but also increase the capital by increasing the value of the farm.

A western writer has said that "large farms are the curse of the West;" nor does this apply to the West alone, but also to the East.

By increasing the depth of his soil, the farmer increases his crops, without increasing his number of acres, and with little or no extra expense in labor.

In this way a farm of fifty acres may produce more than many of one hundred now yield.—A., in *Germantown Telegraph.*

Tools—To Preserve Them from Rust.

Tools of a fine character and polished, if first rendered warm, and then dipped in a saturated lime water, permitting them to dry quickly, will be protected for many months from rust. The shovel manufacturers pursue this plan—so also do the manufacturers of razors and other polished cutlery; the film of carbonate of lime formed is so slight, as not to dim the polish, while its ability to absorb moisture protects the surface of the metal.

For the rougher tools of the farm which have become polished by use, it is better to apply a thin varnish, made by dissolving one ounce of gum shellac in one quart of alcohol, at ninety-five degrees of strength; the alcohol evaporates immediately, leaving a very thin coating of shellac, which will not peel off, and which is entirely water-proof. This is the gum used on the inside of hats to render them water-proof, and it will thoroughly prevent the rusting of plow-shares, spades, knives of reaping machines, etc. We frequently see it recommended to coat bright tools with bees-wax, oil, etc. It is true that for a time these substances will protect surfaces from rust, but when the oxydation does commence, it is more severe than when they are not used. If applied at all, they should be wiped off again, leaving only so much as will scarcely be perceptible.

STOCK REGISTER.

Sheep vs. Cattle.

Mr. Editor:—Will you please allow a practical farmer to occupy a small space in your excellent paper, the Wis. Farmer, on the above subject, and first let me say that if the farmers themselves would spend a few of their leisure moments in writing for their paper, at such times as they may think they have anything of general interest to communicate, they, as a class, would receive more benefit from its contents. For it is from the practical as well as from the scientific, that we can mutually benefit each other by comparing ideas and experiences. Now let me ask, how many farmers there are in our own Wisconsin, that have, around their barns or sheds, double the number of scrubs of cattle than they are able to furnish with even a limited supply of marsh hay. Every spear the poor man can rake and scrape, and all his coarse fodder, must go into these scrubs to keep them alive through the winter, and to what benefit in these hard times, or in fact almost any times; they are worth very little, if any more, on the first day of June than they were on the first of October. Ask them where and how they procure their wearing apparel, the woolen garments for themselves and family. The answer will almost invariably be, "Buy them at the store and rely on the coming wheat crop for the money to pay for them with."

Now if these persons would procure a few good sheep, in place of the unnecessary portion of their profitless cattle, not more than they could profitably feed and comfortably shelter, it appears to me their condition and prospects for a confortable livelihood would be greatly improved thereby, to say the least. Now there are profits in keeping a reasonable number of sheep. At any rate the wool brings a price, and generally a good one, in cash each year. You are not compelled to wait from three to five years to turn your stock into money, and then as to the amount finally received there is this difference, the cattle will probably bring a part, and in most localities in this State, a

small part of their cost in the end; but a good ewe sheep, if she brings a lamb in the spring, and wool sells at an average price, will pay her keeping through the winter and the greater part, if not all her first cost, in the fall. And then I believe it is admitted by all intelligent farmers, that the manure made by sheep is superior to that of cattle or horses. The time will surely come, and that quickly, when unless we get sheep and grass upon our ridges here in Wisconsin, such a thing as raising wheat or any other grain, will be *up hill business.*

Furthermore, I think that if we would raise in this State anywhere near the amount of wool that it is our interest as farmers to do, manufacturers would grow up among us, and we should thus be saved the cost of transporting a great part at least of our products to the eastern States, and our cloth and the greater portion of our farming tools from the east here. GEO. H. ADAMS.

DANVILLE, Dodge Co., Wis.

The Farmer's Needs.

Many farmers who now have not a single sheep, are looking forward to the time when a small flock, at least, will grace their yards and their pastures. For their benefit let the experienced sheepmaster speak out. There is a question about the best breed. For a small flock, say of fifty or less, perhaps the coarse wools will pay best, especially near a good meat market. For larger flocks, the fine wools do better. Indeed, some claim that fine wools pay better in all cases. But at any rate, to keep any sheep, the right kind of accommodations are needed, both in summer and winter. To have these, one must learn from his own judgment and experience, or from another's.

If one decides upon having sheep, he needs to begin with good ones. A mongrel is not worth having. It is not every animal that has wool and can bleat that should be called a sheep, no more than every animal that is put in harness is called a horse. Step into the yard with a hundred sheep and what do you see? There is the long legged, spry jumper, ready to leave the first chance that offers.—Such a sheep, nobody would select. Those small headed, long necked, uneasy ones that huddle away in the corner, are not to be taken. But right here, almost in reach, are a few that fill the eye. They possess full, broad heads, honest faces, mild eyes, and features generally interesting. They look about with a kind of satisfied expression, and almost say, "I am content, and will do my best for the kindness bestowed upon me." The neck is short and thick, set well up on the shoulders, carrying the head plump above the line of the back.—There is no *weaching* look in such a sheep. The neck up, there is room for a full, deep and wide chest, which gives room for large heart and lungs. The fore legs of such a sheep stand apart, unlike the weak, narrow-chested, whose legs are so near together that one might easily mistake the two for one. The body should be round and plump—a real wool-rack, with the wool outside. To shed rain best, the rump should be very sloping, reminding one of a shed with one roof. But for beauty and health and profit, not to mention the future progeny, the "slant-roof" should be discarded. In fine, a prompt looking, short legged, plump formed, quiet sheep is the one for choice. Such sheep are not always to be found, at a low price, but they are the sheep most to be desired.

The wool is a matter to be particularly considered. Grasp the wool with the hand, on the sides, belly and flank, to decide if the fleece be thick or thin. If the wool does not yield readily at a firm grasp, the fleece will be heavy. Be sure the thickness extends over the belly and down the legs. Examine very closely the flanks, to see if wool of nearly the same quality covers them as is found on the sides and back. If it is long and shaggy, let the sheep run. Also, if there are long hairs protruding beyond the wool, look for better ones. Manufacturers never like a mixture of *hair* in their wool—they prefer cotton.

The age of sheep is another consideration. *This* the buyer must judge of himself. Most farmers appear to detest old sheep, and get rid of them at all hazards. Old sheep are not to be despised. We speak a word in their behalf. We enter here a plea for the good old sheep. She is not to be discarded because toothless. In fine, many of them would be far better off without them. Many a mother-sheep might be saved for years of usefulness, and from the fate of the "scamp," did the flock-master but practice a little dentistry, and take away the loose old teeth. They often summer as well as any, and will winter as well by having grain and roots. We speak of what we know upon the subject. Out of eight old "scamps" taken from a large flock of fine-wooled sheep, with the object of making feed of them for hens, six were spared for an experiment. With bones almost sticking through their skins and with strength hardly sufficient to hop over a feed trough eight inches high, they were put into a pen and fed with six quarts of flat-turnips per day, and good hay. In six weeks one was fit to kill for fair mutton, and the rest were spry and doing well. A farmer got them at nine shillings per head, and calls them cheap. Had they been butchered when taken from the flock, their pelts would have brought only seventy-

five cents per head, and the carcasses would only pay for killing.

Look after the *good old sheep*—they bring the best lambs of the flock. Examine them and pull out the teeth that will trouble them about feeding in summer. For every old sheep raise two bushels of turnips, and no longer sell for fifty or sixty cents what is worth one dollar. Drovers will not like this advice, but they must wait a little longer. They often get the dollar the farmer ought to have, but they must be considered a necessary nuisance.—*N. H. Journal of Agriculture.*

Horn Distemper in Cattle.

I hereby send you a receipt to cure horn distemper which I obtained of a German farrier at the east, it will do him no harm now, I am so far away, if our good farmers of Wisconsin should learn the art which I have never known to fail: Take three table spoonfulls of ground pepper, three do. of spice, three do. of ginger, one handfull of white ends of hen dung, four hen eggs, mix well together, then mix in flour (rye flour is the best,) till the whole becomes hard, cut the same into three pills, give one each morning, at the same time pour some spirits turpentine on the head between the horns.

To administer the pills, let one take the creature by the horn and nose, and another draw the tongue out of the mouth to one side, then with the other hand push the pill over the roots of the tongue, and it will at once go down.

The horns should never be bored, as it lets in air, which will be a great injury. In severe cases this dose may need to be repeated.

The above is good for relax in cattle when caused by overflow of the gall. But for cows which have the scours after having their calf, (as many do,) the following remedy is the best: Take two quarts of wheat flour put in a stout cloth sowed up tight, boil the same for two or three hours when it will become a hard, dry cake, shave up the same fine, mix with slop. Make of the above four or five parts to be fed twice a day, sometimes it needs to be continued four or five days, but not oftener.

I thought when I commenced I would finish my sheet, but it might be labor lost, so I will wait and see how you like this.

Here I want to suggest a thought. There are so many who write for the FARMER who advise the farmers in different directions who have selfish ends in view, that it sometimes makes a clash. I believe if the farmers would be interested, and give us honest, unselfish facts, we would make greater progress. Please give an Editorial on this subject.

If you consider any of this as worthy your columns, you are welcome to them, and more, perhaps, some other time, when my head gets clearer. Yours, &c., R. MACOMBER.

LA PRAIRIE, Wis.

Working Bulls.

The *Homestead* publishes our article on this subject, prefacing it with the following remarks:

"The practice of having bulls 'broken' to lead by a ring in the nose, and to behave well held at arms length with a stout ash stick caught into said ring, and under the restraining influence of a cudgel or heavy whip, is not to be approved in these days of animal subjugation. A bull's nervous organization is not so high-strung as that of a horse. He is more easily conquered, if by any means he can be thoroughly controlled; but the conquest does not last—his affections and confidence are not so strong, and he may prove treacherous any day. It becomes, then, an important thing to keep the upper hand all the time—to keep him always in the thoroughly servile position—literally to subjugate—put him *sub jugum*, and keep him under the yoke. The *Maine Farmer's* experience is in point, and we quote it, first, however, commending the use of the *forehead-yoke*, a slightly curved, strong piece of wood passing across the forehead and strapped to the horns; a pad equalizes the pressure, and chain traces are attached to the projecting ends. It is the natural way for a bull to draw, and the loads he will draw thus harnessed are immense. The drawing is really pushed with the head, just as when two steers push in their locked-horn battles."

We have seen oxen in Canada yoked together by pieces of plank or scantling across their foreheads by straps around their horns. We did not like the method very well, but as a single harness for a bull, we are not certain it isn't better than a crooked yoke. We are bound to try it some time.

SHEEP-SHEARING.—The *Ohio Farmer* advises wool-growers not to wash their sheep, but to shear the wool without being washed, and sell it in that condition. Manufacturers prefer unwashed wool, because much of that which is washed on the animal is injured by the operation.

Feeding the Farm Horse.

W. G. Campbell, of Garrard county, Ky., in the *Louisville Journal*, makes the following observations on the feeding of farm horses:—"In ascertaining the most economical mode of feeding the farm horse, we will premise that that food which is procured with the smallest amount of labor and capital, and adds most to the strength, health and condition of the horse, is the most economical. If the horse be kept in actual service and labor, cut oats and corn in the cob, with hay, constitute a cheap, healthy, and strengthening food, and I have no doubt is the most economical method of feeding ordinarily. Oats should always be cut up—cut for the horse to the band, and you will leave a portion in fine condition to be fed to cattle. Three bundles thus cut constitute a good feed, with eight ears of corn, and hay; and if hay is not convenient, by letting the horse run out at night and pick grass, or such rough fodder as is fed to cattle, he will keep in fine flesh and extra condition. The low price of horse feed would not pay for labor bestowed upon it, unless it be in time of great scarcity of food.—The food of horses, however, should be varied, so as to prevent cloying, but oats are extremely agreeable to the horse, and he rarely, if ever, cloys upon them. Cut straw of oats, wheat, or rye, made wet, and rye meal mixed with it by pouring in the meal and constantly stirring the straw, makes a fine feed as an alterative, but should not be fed freely to any breeding animal. Such feed acts finely upon the bowels and skin, and may be used to advantage in all cases of costiveness. But one of the most palatable and healthy feeds for the horse, especially if he be failing in his appetite, is a small quantity of shelled oats, say a quart for a horse in delicate health, or a gallon for a horse inclined to costive habits, placed in a pail, with warm water poured over them, (or it may be boiling,) and suffered to stand and absorb the water, and give when cool. Take care to pour on only so much water as to wet the oats moderately. Any horse that will eat at all will eat it. Its action upon the bowels will be fine, which will be told by the sleek and healthy appearance of the hair."

Weaning Lambs.—Lambs should be weaned when about four months old. Remove the ewes and lambs so far apart that they cannot hear each other bleat. The lambs should be placed on better pasture than that to which they had been accustomed, in order to compensate for the loss of milk; but it must not be too luxuriant, or they will over-gorge themselves, and acute diseases will follow. They should be trained to eat salt before weaning. Put one or two tame sheep with the lambs, to subdue their wildness; teach them to eat salt, and aid in conducting them from field to field. After weaning, the ewes should be kept for a week or more on poor pasture; it can scarcely be too poor, otherwise inflamed udders, or garget, will ensue. Many of them should be milked for a day or two. After the lapse of a week or two, the ewes should be placed on a rich pasture, to put them in good condition.

Small Horses.

It is a common remark in New England, that while the horses bred there possess almost all the requisite qualities for general purposes, except size, they are too small. This is quite true, they are too small generally except for light quick work. The exceptions to this rule almost always lack the sprightliness, activity, strength and bottom to make them valuable either for the farm or the road. And we often see a nine-hundred-pound horse that will pull more at a load, and perform even heavy work, with less fatigue, than your eleven-or-twelve-hundred horse. Why is this? It is simply and solely for want of care in their breeding. It is said that "like begets like," and it may be and often is true in the human species, while it is quite untrue in the animal. With thoroughbreds like does beget like, while in the dung-hill it is altogether a matter of chance, as every intelligent breeder knows. While New England has undoubtedly the best breeds of horses raised in this country, less attention has been paid to and is known about the science of breeding than in some other parts of the country, and for the very good reason that every farmer there pursues all the different branches of agriculture—either one of which, at the south and west is considered sufficient for one man. We look forward, however, to the time when in New England more attention will be paid to the science of breeding horses, and anticipate the most happy results.

The Morgan horses of New England, while they possess all the other desirable qualities, are too small; and it has seemed to us that this under-size is the result of carelessness on the part of the breeder. The colt when taken from the mother at four months old, is generally turned upon some barren field at a season when grass grows but slowly, and is expected to get his living in his own way, without much care or attention. He almost always stops growing and falls away in flesh, and comes to the barn at the commencement of winter with scarcely strength enough left to stand up.—Through the winter he runs in the yard with stronger animals and takes his chance at such hay, straw and corn fodder as is thrown them, with but an imperfect shelter from the cold and driving of the season, and comes out in the spring covered with vermin, perhaps weak, and weighing scarcely more than when taken from the mother six or eight months before. From the time the colt is taken from the dam until the following grass season, he should have special care and be kept growing and in full strength, when he is better able to shirk for

himself through the summer. Indeed at no time, until fully grown, should the growth of colts be checked or stopped for want of good care, clean wholesome feed and enough of it, pure water, good warm and well ventilated stables, and plenty of exercise. If these rules were observed by our New England farmers, we should not hear the common complaint that their horses are too small for general purposes. —*American Stock Journal.*

THE POULTERER.

Vitality of Eggs.

Eggs for hatching should be as fresh as possible. Some say they should not be over two weeks old—about the time it takes a hen to lay a clutch of eggs. It is no easy matter, in fact it is impossible, to fix upon any precise period when the vital principle in the egg is destroyed, since it varies from the first, according to the vigor of the parents of the enclosed embryo and the mode of preserving the eggs. A safe rule, however, is to secure fresh eggs.—Those who are anxious to secure a valuable variety, one chicken of which would be worth a whole brood of ordinary or common sorts, will run all risks; after seven or eight weeks their chance is not entirely gone; some of the chicks will be found dead in the shell, but those that are hatched, if they survive the first forty-eight hours—the great difficulty—are afterwards no more weakly nor troublesome than others.

Whether for hatching or eating, it is advisable to collect the eggs every afternoon daily. They should be shaken as little as possible, for fear of rupturing the ligaments and mixing the albumen with the yolk; in the meantime air should be excluded from the eggs as much as possible. They should be carefully packed in oats, bran, cut straw, or any other dry, soft substance. It is best to set them on end, and not suffer them to lay and roll on the side. Set them into a moderately cool, dry room of even temperature. A careful observance of the foregoing rules may save many from disappointments in rearing some of the choicest varieties of fowls.

We have before said eggs for hatching should be as fresh as possible, and if early in the season, care should be token that they do not get chilled or frozen, as that would destroy their vitality; as soon as laid they could be marked with a pencil to know their age and stock.

The last week in March or first in April will be a good time to set your hens, and the pullets, if well fed from these clutches, will lay through the following winter. Select the eggs of good laying hens, of good shape, and of regular size; by this means you may much improve your stock. Some who are very particular in these matters will only put eggs from one fowl under a sitting hen, in order that no mistake may arise as to the identity of the chicks. In raising game fowls this, of course, will be a very important rule; and as the male bird is the object desired in this stock, observe eggs of a good shape, that are longest and sharpest at the small end are generally found to produce males, but not always, while the round and large ended ones produce females. Last year in a clutch of thirteen long pointed eggs there were ten cocks and one pullet hatched.

Many persons are foiled in raising chickens for want of a little attention to them. It is an old but true rxiom, that "a thing worth doing at all is worth doing well," and this will apply to the rearing of chickens as well as to other matters. Convenient nests should be provided for the hens to lay and hatch in. They should be secured in sheltered places and filled with cut straw, hay or some soft substance. Old nests or boxes should be cleaned—scalded with boiling lime water, and the bedding removed and replaced with fresh. A good hen will cover fifteen of her own sized eggs, but some think thirteen a sufficient number, and there are others who give the preference to eleven; we think the medium the most successful.

Place all the eggs, whether eleven or thirteen, under the hen at once, and mark with chalk or pencil, in a conspicuous place on the box, a date twenty-one days advance—the time occupied in hatching.—C. N. Bement, in *Country Gentleman.*

Cure for Gapes in Chickens.—I have tried the following plan, and found it a certain cure for gapes in chickens. Take a medium sized broom splint, and with a sharp knife make two or three barbs near the large end. Open the mouth of the chicken, having its neck drawn straight, and, as the wind-pipe is opened for breath, put in the instrument, and running it carefully down the full length of the wind-pipe, turn it around and draw it up, when one or more small red worms, an inch in length, will be found caught in the barbs. I have taken out four worms at one insertion. Two or three operations are often necessary, but if faithfully performed, the remedy is sure.—*American Agriculturist.*

Lice in Poultry house.—Limewash the inside of your poultry house, using lime fresh from the kiln, and mixing a handful of flowers of sulphur in every bucketful of the limewash. To prevent the occurrence of vermin, the floor of the roosting-house should be covered some inches deep with sand, the droppings raked off every morning, and the sides of the house whitewashed as above directed, at least twice annually. The nests in the laying house should be frequently renewed, and the whole interior of that house similarly limewashed.

THE BEE KEEPER.

Random Thoughts upon the Bee.—No. 6.

ON COMMON BEES.

The term common bees, working bees, or mules, will apply to all the others in the swarm, excepting the queen and the drones; because they form the mass of the community, and do the labor, by laying in stores for the hive, and nourishing the brood, and are neutual in their propagation. Much curious hypothesis has appeared amongst Apiarians, upon the order and regularity in apportioning the employments and tasks of labor in the community; but this is now generally exploded, and each bee is left to the government of his own instinct, in apportioning and performing his several duties.

The whole field of nature abounds with inexplicable mysteries of providence; and the bee, by her wonderful sagacity, has unlocked one of those mysteries, by extracting honey from plants and flowers, and converting it to the support of herself, and the use of man; but how this honey is produced in the operations of nature, in the growth of the plants, and how the bee extracts it in exclusion to the other juices of the same plants, is all inexplicable to us, and is one, amongst the millions of nature's works, to show how little of nature man can know.

In regard to the physical description of the bee, the most remarkable parts of it are the head, the breast, and the belly. On the former are observed two wonderful eyes placed in the side, two antennæ, two hard teeth, or jaws, which play, on opening and shutting, from the left to the right. These teeth enable it to collect the wax, to knead it, to construct the cells, and to remove from the hive every obnoxious thing. Below these teeth we observe a proboscis, which has the appearance of a thick, fleshy substance, of a very shining chestnut color.—This substance is divided into two parts very supple at the end, and it is only seen at its full length when the bee is employed in collecting honey in water. If the teeth be separated, we observe at the orifice of the proboscis an opening, which is the mouth, and above it a fleshy substance which is the tongue; their use will be explained in the sequel. The breast is attached to the head by a very short neck; it carries four wings upon it, the two last are longer than the two first. It has six feet, on the two hinder of which are two triangular cavities, in which the bee, by degrees, collects the farina from the plants. At the extremity of the six feet, are two sorts of fangs, with which the bees attach themselves to the sides of the hives, and to each other. From the middle of these fangs, on the four hinder legs, project four bushy substances, the use of which are to collect the dust of the flowers, attached to the hairs of their body, and are of the same use as hands. The body, properly called, is united to the breast by a species of thread, and is composed of six scaly rings. The whole body of the bee appears, even to the naked eye, to be well clothed. Age makes a little difference with them in point of color; those of the present year are brown, and have greyish hairs; those of the preceding year, have reddish hair, and the scales less brown, rather inclining to a black. Their wings are often torn and fringed at the ends, occasioned by their former flights. On the wings and on the breast, are observed small orifices, or pores, in the shape of a mouth, by which the bee respires, these are the lungs of the body, (technically called stysmates;) this part, which is of a wonderful construction, is both common to the bee, and all other insects. The interior of the body consists of four parts; the intestines, the honey-bag, the venom vessel, and the sting. The honey-bag is as large as a pea, when it is filled; transparent as crystal, and is the store-house of the bee, when collecting the honey, and which she transports, and lays up for the use of the swarm in winter, in the common stock.

The vessel which contains the venom is at the root of the sting, and is conveyed with the wound of the sting. The sting is a sharp, barbed, hard substance, at the extremity of the belly, and is both the offensive and defensive weapon of the bee.

The bee easily inflicts a wound with her

sting, and from its barbed surface, often leaves the sting behind, which generally proves fatal to the bee. The sting of the bee effects persons very differently; some with much pain and injury, others with very little sensible effect. Many remedies have been suggested for the sting of the bee, but the best remedy may be found in extracting the sting immediately, and apply a little laudanum. To prevent the swelling arising from the sting of the bee, I know of no remedy more efficacious than olive oil. In regard to the former, it is well known to be a specific against the bite of the viper. The juice of the onion, mixed with common salt is also a good remedy.

All these details can only produce on the rational mind a more distinct and extensive knowledge of that infinite intelligence, who has arranged the creatures of this earth, presided at their organization, and regulated their existence and configuration. There is nothing in nature which can so fully demonstrate to us, an equally wise and powerful Being.

The insects, the most vile, are, perhaps, more admirable in their structure than the sun, and the most brilliant stars. What proportion! what harmony! what correspondence in every part of the bee. How many combinations, arrangements, causes, effects and principles, which tend to the same end, and concur in the same design! What exactness, what symmetry in its little body, apparently contemptible, and so little admired by ignorant and inattentive persons! As in the greater number of animals, so we observe in the bee, vessels without number, liquids, motions, often united in an imperceptible point; all the organs of life, the instruments of labor, weapons to command victory when attacked, or the instruments of escape from a superior foe, with a thousand others that adorn its exterior form. Every thing in these insects announces that Supreme Wisdom, that presided at the formation of a work so perfect, so industrious, so superior in structure and sagacity to every thing that art could ever produce. All this, when combined with the rich blessings which they impart to man, call for his homage, gratitude, admiration and love. W. H. MORRISON.

LITTLE PRAIRIE, April 7, 1862.

Diseases of Bees.

H. Hamet remarks: "Bees, like other creatures, are subject to various diseases. Less, however, than some animals, on account of their activity, industry and frugality, and they no not create for themselves any artificial wants. Their troubles mostly come from want of care, and ignorance of their owners. Colonies in a wild state are more free from disease.

The most dreaded diseases are dysentery, constipation, and foul-brood.

Dysentery.—In a normal condition, bees never void their excrement in the hive, they always go out for this purpose. This affection is generally noticed at the end of the winter, when they have been retained prisoners in the hive for one or two months, by cold or rain. In this condition, they have no regard for the clothes of those passing near them, nor for fine linen spread on the grass to dry, close to the hive. If the air of the hive is rendered unwholsome by humidity, or any other cause, the bees, if confined, are soon attacked by dysentery. The interior of the hive, the combs, and many of the bees, are covered with filth. The air of the hive is offensive, and the colony perishes. No time is to be lost in giving aid to a hive sinking by this disease. Reverse the hive to get rid of the bad air. Cut out the filthy combs, and cleanse the hive as much as possible; allow them plenty of air, and feed them with a little good honey, slightly warmed. Some advise to add a little salt and wine to the honey. In such case, the salt is of no benefit; as to the wine, we advise the bee-keeper to drink it himself, so as to gain more strength to give his bees better care. He will then bear in mind that strong colonies, with sufficient stores and well-protected hives, are never attacked with dysentery. It only occurs in colonies lacking in stores; in those which have received in cold weather inferior honey, or poor sugar-syrup containing too much water, which remaining unsealed, becomes sour and unwholesome; and in those colonies lodged in poor hives, badly sheltered, and in a damp place. This disease occurs in autumn, but chiefly at the close of winter."

We one year lost several hives from this cause, and attributed it to having fed them late in the autumn, on refined sugar to much watered; and the cells in which it was stored remaining unsealed, it soured. If the hives had been properly ventilated, much of the water would have evaporated, and the acidity prevented. Since that time we have not lost a hive from this cause, except one which was overpopulous, and not having sufficient ventilation, they became restless from over-warmth in the spring, while the weather was still too cold for them to fly out. On examination, the hive contained plenty of honey where the dead bees were clustered, but the combs showed a want of ventilation; they were damp and mouldy, and very filthy. Mr. Hamet describes another

disease which sometimes attacks weak colonies in poorly protected hives—*Constipation;* which he attributes to the distention of the abdomen by fœces, during very severe weather; the liquid portion becoming absorbed or evaporating, the bee cannot void the solid mass remaining. In this condition, they will not partake of food offered them, and a state of stupor supervening, they soon die. Hamet considers that both dysentery and constipation may become contagious in an apiary, if neglected until the air is affected by the odor of the diseased bees, and their excrements. This may possibly be true where the hives are kept in large numbers very near each other; but we are inclined to think that the above conditions, and also foul-brood, are spread by bees robbing infected hives—the honey having been tainted by the bad odor of the hive. Honey made in a red cedar or a pine box, is impregnated with the odor of the wood. Honey stored in mouldy comb is very unpleasant in flavor, but we are not aware that it is injurious to bees. It certainly cannot benefit them.—E. P., in *Bee Jour.*

Bee-Keeper's Calendar for June.

This is the great swarming month in all our Northern and Middle States. As bees keep up a high temperature in their hives, they are by no means so dependent upon the weather for forwardness, as plants, and as most other insects necessarily are. I have had as early swarms in Northern Massachusetts, as in the vicinity of Philadelphia.

If the Apiary is not carefully watched, the bee-keeper, after a short absence, should examine the neighboring bushes and trees, on some of which he will often find a swarm clustered, preparatory to their departure for a new home.

As fast as the surplus honey receptacles are filled, and the cells capped over, they should be removed, and empty ones put in their place. Careless bee-keepers often lose much, by neglecting to do this in season, thereby condemning their colonies to a very unwilling idleness. The Apiarian will bear in mind, that all small swarms which come off late in this month, should be either aided, doubled, or returned to the mother-stock. With my hives, the issue of such swarms may be prevented, by removing, in season, the supernumerary queen-cells. During all the swarming season, and, indeed, at all other times when young queens are being bred, the bee-keeper must ascertain seasonably, that the hives which contain them, succeed in securing a fertile mother.—LANGSTROTH.

THE HORTICULTURIST.

A. G. HANFORD, : : CORRESPONDING EDITOR

☞ Our Horticultural Department, this month, will lack its usual amount of original communications, from the fact that our correspondents are so deeply engaged in putting in their garden crops, that they have no time to handle the pen. We trust that next month, the usual variety will appear.

City Vegetable Gardens.

We have all about us in all the cities of New England of considerable size, vegetable gardeners, who supply a certain class of vegetables to the citizens, ordinarily bringing them daily to their doors. They supply green grocers also with that class of vegetables which while in season are found exposed in open market. These men and women—for woman's labor is beginning to be regarded as an important element in market gardening—are deserving of great credit for the excellence of their productions and for the energy and enterprise with which they manage their business.

Our market gardeners and green grocers furnish an *exceedingly* limited variety of vegetables; we can enumerate them all in a few words, but everybody knows what they are. Most of these articles deteriorate immensely—vastly more than most who eat them appreciate—by keeping a few hours. It is then not only very pleasant to furnish one's table from one's own garden, with certain delicacies which the market does not supply, but it is also desirable when it is practicable to raise those things which though usually to be bought in the market, are yet wilted or greatly deteriorated.

In a large, warm garden, early potatoes, sweet corn, several varieties of cabbages, cucumbers and squashes may be raised, but it is hardly worth while to make the attempt in a small one, for they occupy a good deal of space, and may be bought very cheaply, in fact, for less than one quarter what it costs to raise them on a small scale.

There are certain vegetables easily enough raised, and not occupying much room, which, if they are consumed in large quantities, it is not worth while to raise; such as rareripe onions, head lettuce, peas, string beans, etc., but which, if they are *not* consumed in large quantities, it is very desirable to have in the garden, especially if the housekeeper can plan her table to accommodate their time of coming to perfection, keeping watch of their growth.

Yet another class are so much better, in fact only fit to be eaten, when pulled and brought fresh to the table, than if kept only a few hours, that no matter how small the garden, if

it can be adapted to their growth, they should be raised. We class among these all varieties of the radish, garden cress, (seldom or never found in market), beets, (the early Bassano being one of the best kinds), carrots, (the little early shorthorn sugar varieties, of which there are several having similar characteristics and distinguished by one or more of the adjectives we use, being the only ones fit for garden culture, and most delicious as a table vegetable —which fact few Yankees appreciate), and perhaps we should add, peas, for though they occupy a good deal of space when a succession is desired, they are so much superior—sweeter and richer—when fresh from the garden, that it is quite worth while to give them the space, if possible. The only objection is that a few "messes" from the garden, if picked just at the right time, and if the sorts be good, will give a distaste to the best the market affords.

It is very desirable to have asparagus fresh cut, too, but this requires a permanent bed and a good deal of room for an abundant supply; still it is more desirable.

Summer squashes of dwarf habit are very convenient, occupying little space, and the best crooknecks equal the large-growing kinds, and are very prolific.

Sweet herbs are a great convenience, and it is quite well to have as full an assortment as one has space for. Parsley is a necessity, and others, such as sweet marjorum, summer savory, sage and sweet cicely are quite convenient.

We shall have more to say on this subject next week, but must stop here for fear of our article exceeding a readable length. As soon as the ground is open, dig deep, eschewing the spade, and using the *spading fork*, and dig in well-rotted manure in abundance. Where you intend to sow radishes or turnips a sandy soil is best, and it should have but little or no enrichment, though abundance of coarse, heating manure, eight inches or a little less beneath the surface, will force a rapid growth, and is well for early radishes when you have no hot-bed.—*Homestead.*

WOUNDS IN THE BARK OF FRUIT TREES.—When these occur, the ragged portions of the bark around the edge of the wound should be cleanly and regularly cut, when the edges of the exposed portion of the wood may be coated with a covering of Canada balsam. This will protect the bark from the oxydizing influences of the atmosphere, and at the same time permit the new growth to occur about the edges, so as to prevent further stripping of the bark. Some cultivators prefer the use of one ounce of gum shellac, dissolved in one quart of alcohol of 95 per cent. strength. No larger portion of shellac should ever be used, as a thick coating is sure to crack and peel off instead of remaining firm to the surface. A thin varnish of shellac may also be used on the ends of branches when freshly trimmed. The alcohol evaporates immediately, leaving a thin coating of shellac, which becomes dry and firmly attached to the wood before any exudation of sap can occur. —*Working Farmer.*

Six Best Shade Trees (Deciduous.)

You have *not* got the "six best," Mr. Editor. The "White Elm" is good—the best of any—grand, thrifty, and enduring. The sugar maple is good, but too symmetrical, and formal, for picturesque effect. Yet I would have it, in moderate numbers. The several varieties of white, red, and other *soft* maples are better. They are hardy, thrifty, and throw, and dash, and wave their spray around with a freedom and grace that the *sugar* maple knows nothing about. I would have at least three of these *soft* to one of the *sugar*. As to the "oaks"—among shade or lawn trees they are like our American Indians when allied to civilization. The association kills them. The oaks, compared with most other of our native forest trees, are not hardy. They are difficult to transplant, and live. They grow comparatively slow, when they grow at all. They leaf out late, and have little beauty in their autumnal garniture, which I think a great merit in all shade trees. Still, a few well selected oaks, scattered in with other trees, look well, for variety; but I would recommend no one to plant a *row* of them. The "majesty, and grandeur" of a full grown *white* oak I concede; but as for the timber, they are better grown in a forest. I've grown thousands of them, and have them now, from the cane-sized sapling to those fit for the keel of a ship. *My experience* is: plant them *very sparingly* as shade trees. The "Linden"—good—either the European ("*Tilia Europa,*") or the American "Bass wood."—They are beautiful, grand, and stately; early to leaf, and late to fall; easy to transplant, and thrifty to grow. The "white ash" is a noble tree, but too late in leafing out, and too early to shed in the fall. Still, for a variety, I would have a few, only. Like the oak, a valuable timber tree, and better in the woods than elsewhere. The "Cucumber" is a fine tree—when you can get it—but it is difficult to grow, and if in a *windy* position, very apt to grow one-sided. Yet, one, or two for variety are well enough. Better fill up your other varieties with Birch, Willow, and Horse Chestnuts. The Tulip, or white-wood is a noble tree, of good symmetry, but a hard one to transplant and live, unless reared in the nursery. I never yet saw an avenue, or row of them, even in a white-wood country. Another thing: they will thrive only in a free, well drained soil. "Button-woods" are all diseased, and have been throughout the United States for the past thirty years. I know of but one truly *healthy* one within miles of my home, and I have many on my own grounds—cutting them away every

new and then for the reason of their diseased unsightliness. As to the *nut*-bearing trees you name, be sure they will be protected from the ravages of "the boys," or the vexation of losing their fruit is more than they are worth. They are all hard to transplant, successfully. The American Chestnut is a princely tree in size and appearance, and we have scarcely one more useful. The beech is refractory to transplant; and the birch capricious in its choice of soils. A cool moist soil suits it best; White Willows grow every where, and Horse Chestnuts thrive in any tolerable soil, and are easy to transplant and live.—*Am. Agriculturist.*

Mushrooms.

In England the mushroom is esteemed a delicacy at any time, and in first class places "mushroom houses" are provided for their growth. Here people differ greatly about their desirableness for food, some being passionately fond of them, while others as strenuously abhor them. The article in its natural state, springs up profusely in old pastures in the fall. A good mushroom year, usually will happen, if the summer has been dry (when the spawn runs) followed in the fall months by plenty of rain, and moderately warm weather. Another prolific source of the right kind too, is on old spent hot beds. The past summer our table was almost constantly supplied from this source, besides dispensing some among friends who liked them. Their use is in making catsup, as a pickle, stewed with rich gravies, fried, &c.

The "mushroom spawn" is the article from which the mushroom is obtained as distinguished from other plants obtained from seed, &c. This spawn exists in useable quantities, frequently on old hot beds manure piles, &c.; and is manufactured into what are termed bricks, expressly for propagation by gardeners. These bricks, if properly impregnated and afterwards kept dry, will last an indefinite time, and yet retain their value.

With these bricks then, the after treatment consists in merely, preparing a suitable medium for the mushrooms to grow in. This may be the vinery border, in boxes under the green house stage, or even in a cellar; for light is not absolutely necessary, to this crop; they naturally grow in the night time only. The usual time to make the bed is in the fall, but with skill and proper place, they may be obtained all the year round. If for summer use, a cool place must be selected and a thin bed prepared; but if for fall and winter, a warmer position and deeper bed is desirable. The material required is short, fresh horse manure; the more droppings the better. They should not be allowed to heat dry before using; in fact they are best, if not allowed to heat at all, but collected and dried by exposure to the atmosphere. When ready to make the bed, shake up the droppings and make all moist, but not saturate with too much water; build a bed very firm; if in fall, two feet deep, of this material. It cannot be too firm. After the strongest fermentation has passed off, and it feels comfortably warm to the hand, break up the spawn into pieces, one or two inches square; these pieces are then set into the bed every six inches, using the hand to do it, by lifting sufficient manure up to cover them with; after all is spawned, pat all over with the spade; then cover with two or three inches of soil which should be made quite fine, and beat down perfectly smooth and hard, watering to assist the process of smoothing. The bed is now to be covered with straw, which may be increased or added to, as the heat increases or declines. —EDGAR SANDERS, in *Prairie Farmer.*

Peas among Potatoes.

Most persons are fond of green peas; but a great many, even among farmers, do not have half as many as their families would use with advantage to their health and good-nature.—They are often planted in the garden, on a rather light and dry soil, and after one or two sparing messes have been gathered, the unwelcome intelligence comes to the family, that *there are no more green peas!*

In order to have a succession of this delicious vegetable upon the table, different varieties must be used, and planted at different times, and if the soil is not a moist one, they should be planted deep—say three or four inches—and after they are fairly up an inch or two, mulched with some substance that will check evaporation from the soil directly above them.

For later use there is a better mode than this, viz.,—Put a single pea into the potato hill at the time of planting the latter, over a portion of the field. A week later, go over another portion of the field in the same way, and so on for three or four weeks. In this manner the table may be plentifully supplied with delicious peas as long as they are desired, and at a cost too trifling for consideration.

The potato plant is a protector to the young pea, and when the latter has increased in stature, it still lends its friendly aid by allowing the pea vine to cling to it with its little tendrils, and thus sustains it against storm and wind by its superior vigor and strength.

It is much more pleasant to "pick peas" among the potatoes than when they run up among brush. The objection that it is too far to go to the potato field is not an insuperable one. It is not so much of a trial as it is to go without the peas, especially to those *who are really fond of them!*—*N. E. Farmer.*

ABDALAIVA, (Egyptian melon).—The past season was our first experiment with this new and very peculiar fruit, and we were highly gratified with the results. The fruit attains

from twelve to fifteen inches in length; circumference, at the base, thirteen to twenty inches; tapering gradually to a point at the apex, with fluted lines the whole length; skin, dark russet, interspersed with white blotches; flesh, bright orange color, of very fine texture; and for pies we find them equal to the celebrated "Honolulu Nectarine Squash." They require the same culture as the "Japan Apple-pie Melon," which I have grown with good success for several years past. They require a rich soil; plant early, in hills ten feet apart each way, and let only two plants remain in each hill. The Japan melon is a long keeper; I have one at this present time, (Dec. 18) that was grown by me in 1859, which is now as sound and fresh as when picked from the vines. We value them highly for pies, preserves, and sauce.—L. NORRIS, in *Homestead.*

Mulching Newly Planted Trees.

Webster defines mulch as "half rotten straw." The term is applied by Horticulturists to a covering of any description spread upon the surface of the ground, over the roots of trees, as straw manure, half decayed corn stalks, the scrapings of the wood pile, leaves or the like; we prefer corn stalks.

The mulch should be spread on the surface, a little beyond the extent of the roots, say for two or three feet from the base of the tree, and to the depth or thickness of three or four inches, and not as is too often the case where mulching is attempted, thrown close about the foot of the tree.

The best time to mulch is immediately after planting, and should be considered a part of the process of planting.

Trees well planted, promptly and carefully mulched, are almost insured from the dangers of summer drouth. The need of watering, a very doubtful practice at best, as usually done, is thus avoided.

When mulching has been neglected, until the surface has become dry and hard, remove a little of the surface soil and give a copious watering. After it has settled, make the earth, first removed, fine and return, then apply the mulch.

Fine loose earth is also an excellent mulch, and where the unsightliness of litter is an objection, may be used and will be found equally efficacious. We name this method with some hesitation, because where it is adopted there is danger that the frequent stirring which is necessary in order to keep the soil loose, will be neglected during the pressing work of early and mid-summer. The surface should be stirred as often as once or twice a week until the last of August, better if it were done early every morning. The mulch should remain on through winter to be forked under in the spring, it will be well if its place is again supplied with fresh material.

Litter about trees attracts mice which are apt to girdle them during winter; to guard against this, late in autumn raise a mound of earth a foot high about the base of the tree. Besides keeping off the mice, this will afford support to the newly planted tree.

For years past we have practiced throwing this mound around all our orchard trees in autumn, removing it again in early spring.

A. G. HANFORD.

COLUMBUS, Ohio.

Seven Short Rules for Transplanting Evergreens.

Plant evergreens; it is not yet too late. Indeed, it is just the time in this latitude. The sap is circulating, the buds have burst and the new growth commenced. A thousand experiments have proved this state of the plant to be the most favorable for removing in the spring.

Observe a few things:

First. That you select a good tree. Be sure that all the roots and rootlets were taken up with it, covered immediately to keep them from the air, and kept moist to the hour of resetting. The plant should have been of thrifty growth in years past—broad at the base, tapering gracefully to the top. The smaller it is the greater its chance for life, with a given amount of care.

Second. Transplant it right. Here is the rule. Don't set your stupid hole-digger at it. A tree is a thing of life.

Third. Remove the moss packing from the roots, prune off those that were injured in digging up. Dip the roots in a "grout," as the nurserymen call it. It consists of equal parts of clay or loam and cow-stable manure, with water added, to reduce the mixture to the consistency of cream. Let this dry on, then plant with your own hands.

Fourth. Have the hole large—not deep. Sift in the fine earth about the roots—press it closely to them with your fingers, following each fibre out by itself. If you can get it, work in some finely rotted chip dirt; it makes the very best food for young evergreens.

With this treatment your tree ought to live; but it may not.

Fifth. Should the weather come on hot the scorching sun will be very likely to cause an excessive evaporation of the sap of the plant from its thousand leaves and its smooth trunk, and at the same time dry the moisture from the ground in which it stands. Then it must die.

To prevent this, protect the trunk by wrapping a straw rope around it and keeping it moist. Or, if the plant be small, envelope the whole in straw during such time of heat and drouth, till fall. And always lay some flat stones, or bricks, or pieces of boards, or a mulch of half rotted straw several inches thick over the roots, and extending out a foot or two beyond them.

Sixth. If you would not be annoyed and disheartened by failure, avoid tree-peddlers whom you know nothing about, and who only want to know you long enough to get your money. Go to an honest nursery man near you. (There are several of this sort in the West.) Pay him his price for his best trees and a trifle extra for extra work in grouting and packing.

Seventh. Finally, let your children help you. Your boys will be more of men for knowing how to cultivate and superintend their own grounds. Your daughters will hold rustic wealth in higher esteem after they have lent a hand in producing it. They will be delighted to help you—and they *will help* unless your own surly nature drives them off. Give each one his choice of trees and let it be his to care for.

The humblest cot is beautiful in summer when embowered in trees. It seems winning and cozy and warm in winter when surrounded by evergreens.—THURSTON, *in Chicago Journal.*

Planting Flower Seeds.

The following seasonable hints are extracted from a late number of the *Rural New Yorker*, and if the advice is followed by our friends, they will not fail to have an abundance of flowers:

"Seeds should not be sown in the open ground in this climate until about the tenth of May, and even later will answer. To this, however, there are some exceptions. Lark spurs, Poppies, Sweet Peas, and a few other very hardy varieties, should be in the ground as early as possible. A fine day or two often tempts persons to sow their seed too early, and when cold rains and even late frosts follow, the greater part are destroyed. It is useless to plant tender seeds in the open ground until the weather becomes settled. In fact, there is very little advantage in starting things early, as our summers are sufficiently long to allow time for the full maturity of most of our annuals; and for perennial and biennial plants we have always found the best course to be to sow the seed in the open ground about the first of June, and transplant to the border where they are to flower the next summer, in September. This is the plan we adopt with Picotees, Carnations, Sweet Williams, Hollyhocks, etc. Prepare a nice mellow piece of soil for the seed-bed, and sow the seed in drills, the depth depending upon its size, covering each, about twice the depth of its diameter, and with fine earth. Be careful not to sow seed too thick. If you water, do so every evening in dry weather, never omitting a day. Unless this is attended to strictly, it is best not to water at all, as much injury will result from irregular watering. Have every variety labelled, and remove the plants when quite young. A few of each variety may be left in the seed-bed for flowering, if desirable. It will make a very nice miscellaneous bed, or all may be removed, and the place occupied with one variety.—Transplant during dull weather, but not when the soil is very wet, unless it is quite light and sandy."

SCIENCE, ART, STATISTICS.

The Sapsucker, Again.

MR. EDITOR: I notice in the *Prairie Farmer* of April 5th, an anonymous attack on me; or rather on a letter I wrote the WIS. FARMER in March, in which I criticized a lecture delivered by Dr. Hoy, of Racine, before the Illinois State Horticultural Society, in which he described the "Sapsucker" and its habits, and advocated its destruction. I think it very poor policy to answer an attack of which the writer sneaks behind his initials, but in this case as something besides myself is the sufferer, I venture to again attempt to defend from ill usage "The Sapsucker." E. A. C., the correspondent of the *Prairie Farmer*, begins his letter to that paper by affirming that I am from "away daown in Bosting," probably he meant that to be what Artemas Ward terms "*sarkastical*," but in this case the wit? assumes a lowness of character hardly in good taste in the defense of a scientific lecture. He then quotes parts of my article which he describes as being a *big blow*. This is another of his elegantly "sarkastical" remarks; he then says that I made a *big* mistake when I said that Dr. Hoy's lecture was reported in the *Illinois*

Farmer, Vol. vii, No. 1, p. 17; this assertion he qualifies somewhat by stating that it was only partially reported in that paper, but was reported in full in the *Prairie Farmer*, Vol. ix, No. 1, p. 4; or rather, he says he *thinks he has read it there.*

This is a remarkable argument: first he says I made a *big mistake* in saying that the lecture was reported in the *Illinois Farmer*, then he says it was but partially reported there, and he then says he thinks he has read a full report of it in the *Prairie Farmer*. He then defies me to find in the report of Dr. Hoy's lecture, the remark that the Sapsucker (*Picus villosus*) is injurious to the farmer, but he says that the doctor would rejoice to see the (*P. varius*) and the Cedar Bird (*Ampelis cedrorum*) exterminated. It seems that the (*P. varius*. Linn.) or (*Sphyrapicus varius*, Baird) is called the Sapsucker in some parts of the west, but the birds generally known by that name over the entire continent, with a very few exceptions, are the Hairy Woodpecker (*P. villosus*,) of Linnæus, Wilson, Audubon, Wagler and Bonaparte; and the Downy Woodpecker (*P. pubescens*,) of the same authors. The point that E. A. C. seems to stick at, is that the Sapsucker (*Picus varius*) is injurious, but that the Sapsucker (*P. villosus*) is not. That one Picus should be furnished with a tongue calculated to suck the sap of trees, and that other species in the same genus should not have this peculiar arrangement is simply absurd, and although I may be *fighting my own folly and getting beyond my depth*, I venture to say that Dr. Hoy, nor E. A. C., "nor any other man," can produce a bird in this country that sucks the sap of trees. The correspondent of the *Prairie Farmer* finds fault with my using the word *crop* in connection with the Woodpecker. I used it because it is generally used and would be best understood by the readers of an agricultural paper; if I had expected my letter to have been read by one so nicely particular and critical as he, I should have said, an examination of the provent-triculus of this bird would, at almost any season of the year, reveal an assortment or collection of Buprestidæ, in the larva and imago states. Dr. Hoy advocates the destruction of the Cedar Bird. I wonder if he is aware that this bird is exceedingly fond of the caterpillars of the apple-tree moth (*Clisiocampa Ameaicana*) and the destructive canker worm; did he ever notice how expert a fly-catcher the Cedar Bird is?

E. A. C. says my long-winded article puts him in mind of the old proverb, "eloquence enough, but little wisdom." I thank him for the compliment to my eloquence, he was happy in his choice of a comparison, and judging by his style, he must be an exceedingly jolly fellow, his happiness can be explained by that *old proverb*, "when ignorance is bliss," &c. He says he knows enough to post himself on what he writes about, perhaps his facilities for getting posted were not adequate to enable him to write on the present subject; or perhaps he was gradually getting oblivious of matters and things while he was writing to the *Prairie Farmer*, and this seems to be very likely the correct supposition, as his concluding remark. "The days of rattlesnakes and fever and ague are past," seems sufficiently vague to lead one to remember that Illinois produces considerable *old rye*. Yours truly, E. A. SAMUELS.

BOSTON, April 17th, 1862.

A DROP OF WATER IMPRISONED AT THE CREATION.—We were shown, at Pleasant Ridge, by Dr. E. F. Bouchelle, one of the most interesting geological curiosities. It consists of a specimen of rock of the primitive order of formation, and of the pentædral order of crystalization, containing in its centre a globule of water movable and visible. The water is, if there be any truth in geology, one of the oldest drops of water in the universe, far more ancient than the waters of the flood of Noah. To use the language of Dr. Bouchell, "it is a drop of the great deep, when the earth was without form and void; in other words, this little drop is a portion of the first water that was created during the six days of Genesis, and became entangled among the particles of the rock during the act or process of crystalization. The rock being primitive, or the first of creation, the water must also be primitive.—*Eutaw (Ala.) Observer.*

☞ It is estimated that there are 587 languages and general dialects in Europe, 937 in Asia, 226 in Africa, and 1,263 in America, in all nearly 3,000.

A New Invention.

The Milwaukee *Sentinel* thus speaks of a new invention by Cicero Comstock of that city:

We witnessed yesterday the operation of a machine for ploughing or spading the earth, or doing both combined, invented and patented by our fellow-citizen, Cicero Comstock, Esq. Its operation appeared very satisfactory. It was tried on ground scarcely fit for ploughing, but it passed over it, and left it pulverized to the depth of some nine inches, vastly better for any purpose of planting or sowing than any plough, or any other process could do the work.

The machine, which is small, comparatively light and compact, was moved by two horses, as rapidly as a plough could be moved, and covered about the space in its movements of three furrows of the plough—thus practically doing the work three times as fast as the plough and doing it better. The experiment was limited and partial. How it might work on heavier soils, or in gravel, or among stones did not appear. It was manifest, however, we think, that for the great bulk of the western lands it is admirably adapted, and will supersede all other modes of preparing the soil.

Geological Wonder.—About thirty years ago, somebody made the discovery that the ice fields of Siberia contained immense numbers of fossils of elephants and mastodons. Where they came from, or how they got there, is a problem which, perhaps, may never be solved; their existence, however, was no chimera, and as ivory is one of the most valuable commodities of trade in all nations, some utilitarian Englishmen conceived the idea of turning these vestiges of a former epoch to a profitable account. Accordingly, about the year 1835, Thompson, Bonner & Co., a rich London firm, fitted out an expedition to seek for ivory in the Siberian ice. Novel and incredible as it seemed, the expedition was crowned with complete success. The ships returned to England, richly laden with the choicest ivory; and even to the present time, although the world knows little about it, the ivory market is mainly supplied from the ice fields of Siberia.

A Mode of Computing Interest.—Multiply any given number of dollars by the number of days of interest required, separate the right hand figure, and divide by six, the result is the true interest for such number of days at six per cent. This rule is so simple and so true, according to all business usages, that every banker, broker, merchant and clerk should post it up for reference and use. There being no such thing as a fraction in it, there is scarcely any liability to error or mistake. By no arithmetical process can so desired information be obtained with so few figures.

Here is Stuff to Think of!

The number of languages spoken is 3,064. The number of men is about equal to the number of women. One-quarter die before the age of 7. One-half before the age of 17. To every 1,000 persons, one only reaches 100 years, To every 100, only 6 reach 65 years; and not more than 1 in 500 reaches the age of 80 years. There are on earth 1,000,000,000 of inhabitants. Of these 33,333,333 die every year; 91,824 die every day; 7,780 every hour, and 60 every minute—or one for every second. These losses are about balanced by an equal number of births. *The married are longer lived than the single*, and above all, those who observe a sober and industrious conduct. Tall men live longer than short ones. Women have more chances of life previous to the age of 50 years than men, but fewer after. The number of marriages is in proportion of 75 to 100.—Marriages are most frequent after the equinoxes—that is, during the months of June and December. Those born in spring are generally more robust than others. Births and deaths are more frequent by night than by day. Number of men capable of bearing arms is calculated at one-fourth of the population.

To Detect Explosive Coal Oil.—Many disasters have been occasioned by the use of explosive coal oil. The following receipe for ascertaining whether the article is explosive or not, may, therefore, prove useful. Pour a small quantity into a saucer and bring a lighted match slowly down to it. If explosive, the oil will blaze and flash up almost like powder; if not explosive, it will not burn at all. The very light coal and rock oils should be used with caution for burning in lamps, as they are much more volatile, and equally as dangerous as the old explosive lamp mixtures of alcohol and turpentine. The old burning oils which are now commonly used are a much lower specific gravity than those that were in common use about eighteen months ago. They are quite cheap, clear, free from the feited smell of old coal oils, and not so liable to smoke.—*Ontario Times.*

Mints of the United States.—The N. H. *Gazette* tells us that the mints of the United States have coined since they commenced operations—a period of less than seventy years—the large amount of eight hundred millions of dollars—about one-fifth of the whole metallic of the world. Of this amount five hundred and twenty millions of dollars were derived from the mines of the United States.

☞ The Chinese official census of thirty years ago gives the population of that empire at 376,582,900! That of Japan is estimated at twenty-five to fifty millions.

THE MINER.

J. MURRISH, : : : CORRESPONDING EDITOR.

The Business of Mining.

The lead mines of Wisconsin, including a small part of Iowa and Illinois, have been opened since 1827; and during this period of 85 years, have yielded more lead ore than all the mines besides in the United States; and for the amount of labor spent, have unquestionably yielded more than the lead mines of any other part of the world. The lead ore raised in these mines, including the little raised in Missouri, equals about one-eighth of the whole quantity obtained throughout the world. This fact has justly placed this mining region before the world, as one of the greatest deposits of this metal yet known.

But important as these deposits are, and vast as have been their yield, mining as a branch of industry, has received but little attention; indeed it is not yet established as such. A large portion of those engaged in the mines, put in the labor of their hands, and the sweat of their face, as they would put their money into a lottery, or any other game of hazard, without any rule to guide them, or any assurance of success. On this gambling system, mining in Wisconsin has been thus far conducted, consequently has never been regarded as a legitimate, and permanent branch of industry.

We admit that there is more or less speculation connected with mining everywhere; and the best systems of mining ever formed, are more or less hazardous. This grows out of the fact that the products of the miner are not like those of the mechanic, carved out of materials that lie plentifully around him; nor like those of the farmer obtained by a simple process of agriculture; but are obtained from deep subterraneous caverns, where nature has locked her wealth; the key to which is often turned only by the united efforts of labor, capital, and intelligence. It is true, nature adapts herself to the simplest forms of mining, and to the earliest stages of society, often scattering her gold among the sand of the river, and her lead ore just beneath the soil, by way of inducing man to follow her steps into the unexplored regions below: but the metallic resources of the rock are often deep, to guide us to which we need the light of science and experience, and the aid of capital. In proportion as we possess these things, will the hazardous, speculative nature of mining disappear, and it will take its place among the more important branches of industry. In old established mining countries, where the geological position is understood, the nature of the veins well developed, and the capital necessary for mining purposes can be had, we find mining cared for and protected as an important branch of industry, in which labor in the aggregate is as richly rewarded as in any other. This fact has been noticed from the earliest antiquity, and mining has formed a branch of industry to the most barbarous, as well as to the most civilized communities.

We can scarcely dignify with the name of mining, the simple operation by which the ore has been obtained from the surface deposits of the Wisconsin mines. If indeed it can be called mining, it must be ranked among its simplest forms. Hence its hazardous character, and the light in which it has been viewed as a speculative uncertain employment. But I would ask the thinking intelligent people of this State, if mining can become an important and permanent branch of industry, and occupy an important place in political economy anywhere, why not in Wisconsin? This question is often asked, but never very satisfactorily answered. A certain class will tell us it will, at some future day. At present they say we are a young State; have but little surplus capital; and what we have, finds more profitable investment elsewhere. And beside this, the political economist affirms that nature in this respect must regulate herself. It is her work to adjust the interests of, and establish the relation between the different species of industry, and we must patiently wait her time.

But few are more ardent in their attachment to nature than I am; but few would be more

careful to allow her claims. In studying natural science I never think of dictating laws to her, but to carefully read what she has written. In studying political economy, I would not invade her rights; but would collect the material which she has provided; apply the principles which she has laid down; and then humbly perform some of the duties which she has enjoined upon civilization and intelligence.—Much as nature has done in political economy, she leaves very much for man to do, and invites him to become a co-worker with her in collecting and establishing the principles and elements of prosperity. The political economist cannot fail to see that certain species of industry awaits the march of civilization, and remain as though they were not, until brought forth by the efforts of intelligence. To this class mining especially belongs. And it is to be feared that the reason why mining is not ranked among the most lucrative and permanent branches of Wisconsin industry is, not because nature has not done her part, but because nature waits for man to do his.

[TO BE CONTINUED.]

Savans in a Salt Mine.

During the late meeting of the British Scientific Association at Manchester, a party of the scientific dons went upon a visit to the Marsten salt mine, at Norwich. This mine is said to be one of the largest and most remarkable in what is called the "Cheshire Salt Basin." The deposit of salt exists in several beds alternating with colored marls and gypsum. The mine is about thirteen acres in extent, and the descent to it was made in tubs —five of the *savans* being seated in one tub going down and coming up. As there were two hundred and fifty of the party, and some of them very portly gentlemen, they had a sore trial of their patience, the mine being three hundred and sixty feet deep and it taking two minutes and a half for each cargo to go down. The mine was lighted up for them with three thousand candles; the lights flashed from innumerable saline pencicles, and the effect was grand. The miners moved about in appearance like inhabitants of the infernal regions, performing the operations of blasting the saline rocks for the edification of the dons of science.—*Scientific American.*

THE HOME.

The Little Coffin.

BY MRS. H. L. BOSTWICK.

'T was a tiny, rosewood thing,
Ebon bound, and glittering,
With its stars of silver white,
Silver tablet, blank and bright,
Downy pillowed, satin lined,
That I, loitering, chanced to find
'Mid the dust, and scent and gloom,
Of the undertaker's room,
Waiting, empty,—ah! for whom?

Ah! what love-watched cradle bed
Keeps to-night the nestling head,
Or on what soft, pillowing breast
Is the cherub form at rest,
That ere long, with darkened eye,
Sleeping to no lullaby,
Whitely robed, and still, and cold,
Pale flowers slipping from its hold,
Shall this dainty couch enfold?

Ah! what bitter tears shall stain
All this satin sheet like rain,
And what towering hopes lie hid
'Neath this tiny-coffin lid.
Scarcely large enough to bear
Little words that must be there;
Little words cut deep and true,
Bleeding mothers' hearts anew—
Sweet, pet name, and "AGED Two!"

Oh! can sorrow's hovering plume
Round our pathway cast a gloom,
Chill and darksome as the shade
By an infant's coffin made!
From our arms an angel flies,
And our startled, dazzled eyes,
Weeping round its vacant place,
Cannot rise its path to trace,
Cannot see the angel face!

MR. EDITOR:—I was much interested in the communication from "Elsie," in the May No. of the FARMER. I am in favor of all kinds of economical, labor-saving machinery for both men and women, and know by happy experience, the great satisfaction there is in sitting down to a good sewing machine with a "huge pile" of sewing. We have a sewing machine in our family, and it really seems we could not do without it.

But this is not all—for we take equally as much satisfaction in sitting down to a good job of knitting—for we have a knitting machine, and deem it to be almost indispensable in a farmer's family. My principal object in writing at this time is to introduce to the notice of your fair readers (and especially to Elsie,) this wonderful improvement—this ladies friend —The Family Knitting Machine. Why, Mr. Editor, we can knit enough in 15 minutes to make a long pair of stockings—can knit large

or small, coarse or fine, and can do it up naturally, philosophically, and with dispatch. "Elsie" can command the money, and I want all the Elsie's to send a three cent stamp to Mr. Joseph Gould, New Market, N. H., (who is agent for Aikens' Family Knitting Machine) for a Treatise on Knitting, stating the advantages of said machines, and then send about forty dollars and get the machine itself—that hope may be swallowed up in fruition. The time of hand knitting will then be past—mother will no more get asleep over her knitting needles. While I am writing this, mother is asleep over nothing, and can afford to do it—knitting and sewing all done up. Send and get the machine as soon as you can, so as to have it on exhibition at the County and State Fairs. Mr. Gould has the reputation of being an honorable man—he wants the money and you need the machine.

There are three different kinds of washing machines manufactured in our county, all of which are labor saving machines, especially when the boys do not have so much to do on Monday morning but what you can get them hitched on to it. In any event these machines save from one-third to one-half the labor. This is no small item.

Then again if people would not be so thoughtless and shiftless in planning their houses and cisterns—but have their washing water within six feet of their boiler, and the pantry to accommodate both cook and dining rooms which would soon save travel enough to nearly amount to a traveling machine.

Please "Elsie," when you get your knitting, or any other machine, let all the readers of the FARMER know how you like it, that they may do likewise. VESTA.

MONTICELLO, Green Co., Wis.

☞ Kind words are looked upon like jewels in the breast, never to be forgotten, and perhaps to cheer, by their memory, a long, sad life; while words of cruelty, or of carelessness, are like swords in the bosom, wounding and leaving scars which will be borne to the grave by their victim. Do you think there is any bruised heart which bears the mark of such a wound from you? If there is a living one which you have wounded, hasten to heal it; for life is short—to-morrow may be too late.

Home.

In all my wanderings round this world of care,
In all my griefs—and God has given my share—
I still had hopes my latest hours to crown,
Amidst these humble bowers to lay me down;
To husband out life's taper at the close,
And keep the flame from wasting, by repose:
I still had hopes, for pride attends me still,
Amidst the swains to show my book-learned skill,
Around my fire an evening group to draw,
And tell of all I felt, and all I saw;
And as a hare, whom horns and hounds pursue,
Pants to the place from whence at first she flew,
I still had hopes, my long vexations past,
Here to return—and die at home at last.

[GOLDSMITH.

Incidents of Travel.

"How beautiful the country looks this spring! How *can* any one live in the city when sights like these are within their reach?" Such were our exclamations when, a short time since, we stopped from our journeyings to still distant friends to spend a few days in the country. Surely there are no re-unions of family friends, like those that are sanctified by the memories and the loves that linger about the old farm-house, where the beauty and the excellence of the generation that is passing away, like the beauty and wealth of the unfolding year, seems to be gathering, as a heritage, unto those who remain. Three days amid the green fields, the drifting snow of orchard boughs, the bursting buds and vines, singing birds, and we turn away to pay a brief visit to dear friends whom we had been accustomed to see surrounded by the rural luxuriance of the "Woodside" of Wisconsin. It was the first excessively warm day of the season, and as we rolled along through the dust and clatter and glare of the city, we could but repeat, with emphasis, how *can* people, who have ever lived in the country, endure the city? What a contrast between the street prospect, as we looked out from the new residence of our Waukesha friends, and the autumn glories of that western home where we had parted with them last September. But the warm words of welcome, and the happy faces of the children were there, and we soon found that those who had once been accustomed to the charms of a country home, knew how to bring many of its beauties and refreshments into the city. Besides flowers and plants wherever they might

conveniently be, in doors, every inch of yard room was stocked with something agreeable to look at, not unmindful that the beautiful is also the useful.

In the afternoon came a fine old-fashioned shower, the rain clearing off with a beaming sunset, and things looking tolerably tidy and sweet, even in town, and then a drive to the nursery. Oh, that Columbus nursery! What can we say to give our readers an idea of how much may be done in a short time, when taste and perseverance begin the work of embellishment? Only six years since these broad acres, that now look like fairy land, were laid out.—We don't know how to talk about the trees and plants very practically. How could any one, not accustomed to being always there, be expected to remember the names and peculiarities of one of a thousand of those endless rows and endless varieties of trees, shrubs, vines and flowers? We only feel, now, when far away, that the very remembrance of it is like an odor about our path, and the splendid boquet, still fresh upon our table, a proof that the maze of bursting bloom and loveliness through which we passed, as through a dream, has really a local habitation and a name.

MRS. HOYT.

HARRISVILLE, Va., May 17th, 1862.

The Rock of Danger.

In a sermon lately delivered by the Rev. Joseph K. White, occurred the following passage:

In the straits of Sunda, between Java and Sumatra, is a small rock called the Stroom Rock, the top of which is just washed and half covered by the waves, while all around the water is so deep that no anchor can touch the bottom. A ship was once passing through these straits, carried on by the tide, with scarce wind enough to fill her sails. The current bore her rapidly along towards this rock. The danger was seen and every effort made to guard against it. The yards were braced, but the wind no longer filled the sails, and on the ship sped to what seemed her destruction. The loud commands of the officers, and willing response of the sailors were hushed, and silently each watched the rapidly approaching danger. But when hope had almost turned to despair, a breath of wind fills the sails, the ship obeys her helm, the dark rock with the foaming sea around it is seen over the ship's side, and then at the stern, and all hearts breathe free again, for God has saved the vessel and her crew. In the voyage of life, in some straits through which we may pass, has no Stroom Rock lain in our way?—no temptation to sin seemed ready to whelm us in destruction?—Have we not tried to avoid it, and felt that our strength was weakness, and almost in the depth of despair have we not cried for a breath from Heaven, and out from the unseen world has there not come, like the wind, an influence that has saved us?

HEALTH AND DISEASE.

How to Take Care of the Hair.

As to men, we say, when the hair begins to fall out, the best plan is to have it cut short, give it a good brushing with a moderately stiff brush, while the hair is dry; then wash it well with warm soap suds; then rub into the scalp, about the roots of the hair, a little bay rum, brandy, or camphor water. Do these things twice a month; the brushing of the scalp may be profitably done twice a week. Damp the hair with water every time the toilet is made. Nothing ever made is better for the hair than pure soft water, if the scalp is kept clean in the way we have named. The use of oils, or pomatums, or grease of any kind, is ruinous to the hair of man or woman. We consider it a filthy practice, almost universal though it be, for it gathers dust, dirt, and soils whatever it touches. Nothing but pure soft water should ever be allowed on the heads of children. It is a different practice that robs our women of their most beautiful ornament long before their prime; the hair of our daughters should be kept within two inches until their twelfth year.—*Hall's Journal of Health.*

Open the Windows.

What a frivolous conception some persons have in regard to the night air. We well remember the sage warnings so often doled out, to "beware of the night air, the damp night air."

One might suppose from the foolish whims afloat on this subject, that the air at night is charged with death—that by some strange chemical process, it undergoes a transformation of its properties which makes it destructive to human life. Nothing can be more erroneous than this, and we entreat you, if you value your health and buoyancy of feeling, not to let any one persuade you by a false philosophy that there is anything really injurious in the air, and as much of it as you can inhale by night or day. No one should think of sleeping without having a door or window open in the room. There should be a constant circulation of fresh air through your apartments.

How many times have you gone late in the night, into a close room where several persons are sleeping, and felt the lungs almost suffocated with the foul air which has been breathed over and over again, until it has actually become so impure that a candle burns with difficulty. This is the same kind of air which is sometimes found in the bottom of wells, and which is so destructive to human life. Don't commit suicide by shutting out the night air; but throw open your windows and let it in.

There are some people who close up every door and window, and put themselves to some trouble to exclude the air from their rooms as much as possible. In the morning they look pale, stupid, nervous, dragging their heavy forms about the room for some time, before the dull sluggish blood begins to pass freely thro' the veins. You will hear such persons complain of headache, and a score of ailments.—*Scalpel.*

DOMESTIC ECONOMY.

How to Keep the Black Currant.

Ed. Farmer:—Having noticed your invitation to housekeepers to write for the Farmer, I therefore send you a new method for keeping the Black Currant. Having kept the Wild Plum successfully in cold water for winter use, I thought I would try the Black Currant, having more than I could preserve, I put them in a barrel and put cold water enough to cover them, and they kept beautifully. I used the last in April, and they were as good as the first. I kept them in the cellar. Cover with a buttered paper, and then a cloth and cover. I hope you will please make it known through your valuable journal.

Truly yours, Mrs. Geo. Richards.

Roxbury, May 12th, 1862.

Pudding Sauce.—One pint of sugar, one table-spoonful of vinegar, a piece of butter the size of an egg; boil fifteen minutes; add one table-spoonful of rose-water, a little nutmeg; boil it, with the sugar, in nearly a pint of water, and a large table-spoonful of flour.

Batter Pudding.—A pint of milk, four eggs, made thick with flour, a little thicker than cream. Boil it one hour; serve it up with sauce made of flour and water, butter, sugar, a little vinegar, or tart, with spice to your taste.

Buns.—One cup of butter, one of sugar, half cup of yeast, half a pint of milk; make it stiff with flour; add allspice and nutmeg.

A Brilliant Stucco Whitewash.—Take six quarts of salt, five gallons of water; boil and skim; then add one pound of coperas and three-fourths pound of saleratus gradually, and four quarts sifted wood ashes; color to taste or fancy; apply while hot.

2d. Clean, fresh-burnt lime, same as above; one-fourth pound burnt alum, powdered; one pound sugar; three pints rice flour, make into a jelly; one pound clean glue, first dissolved; five gallons water.

This wash is applied, where particular neatness is required, with a painter's brush. It must be put on while warm, if upon the outside of the building—if within doors, cold. It will retain its brilliancy for many years. There is nothing of the kind that will compare with it. About one pint of this mixture will cover a square yard upon the outside of a house, if properly applied.

Chowder.—Cut some slices of pork very thin, and fry it out dry in the dinner-pot; then put in a layer of fish cut in slices, on the pork and fat, then a layer of onions, then potatoes, all cut in thin slices; then fish, onions and potatoes again, till your materials are all in, putting some salt and pepper on each layer of onions; split some crackers and dip them in water, and put them around the sides and over the top; put in water enough to come up in sight; boil about half an hour, till the potatoes are done; add half a pint of milk, or a tea-cup of sweet cream, five minutes before you take it up.

Bird's Nest Sago Pudding.—Soak half a pint of sago in three pints of water, stirring it occasionally, until it is uniformly swelled. Pare and core ten or twelve apples; fill the holes in the center, and put them without piling them one over another, in a pudding dish so that the sago will just cover them. The sago may then be poured on, and the pudding baked, until the apples are soft—very nice for dyspeptics.

To Boil A Ham.—Put a ham in the boiler, whilst the water is cold; be careful that it boils slowly. A ham of twenty pounds takes four hours and a half, larger and smaller in proportion. Keep the water well skimmed. A green ham wants no soaking; but an old one must be soaked sixteen hours, in a large tub of soft water.

Fruit Rice Pudding.—Swell the rice with milk over the fire, then mix fruit of any kind with it,—currants, gooseberries, or quartered apples; put one egg in to bind the rice; boil it well, and serve it with sugar and butter, beat together, with nutmeg, or mace.

Baked Rice Pudding.—Two cups of rice, two quarts of milk, half a cup of sugar, a large tea-spoonful of salt; bake it two hours; serve it up with butter.

RAISED CAKE.—Four pounds of flour, half a pound of butter, half a pound of sugar, one pint of new milk, one pint of yeast; when risen, put in the oven, and bake it till you can put a knitting needle in, and draw it out clean.

TO TAKE INK OUT OF LINEN.—Dip the spotted part in pure melted tallow; then wash out the tallow, and the ink will come out with it. This is said to be unfailing.

SAGO PUDDING.—A large table-spoonful of sago, boiled in one quart of milk, the peel of a lemon, a little nutmeg, and four eggs. Bake it about an hour and a half.

PLAIN CAKE.—Three pounds of flour, one of sugar, one of butter, half a pint of yeast, three gills of milk, three eggs, spice, rose-water.

SUNDERLAND PUDDING.—Eight spoonfuls of flour, three eggs, one pint of milk; baked in cups about fifteen minutes, sweet sauce.

COOKIES.—Five cups of flour, two of sugar, one of butter, one egg; cut it with a tin into small cakes.

YOUTH'S CORNER.

Capture and Trial of Master Mousey.

BY MRS. HOYT.

There was a world as big, and round,
As any world that we have found.

And in that world a country, fair
As country could be, anywhere.

And in that country was a town
With streets and houses, up and down.

And in that town there was a house
In which there lived a little mouse.

Ah, here he is! the very one!
Now then, I think we'll have some fun.

Come one and all, come girls and boys,
Be careful there—don't make a noise,

For mouse, you see, has great wide ears
And every little tip-toe hears.

How bright his eyes! how sleek his skin!
How pink his toes! his tail, how slim!

Ah, he is gone! 't was Dannie, there,
Calling for help to climb the stair.

Well, let him come—the baby boy,
But put away that noisy toy.

Come, all, again; now who can think
Where mousey hid, so quick as wink?

Mice have such curious hiding places,
Such tiny feet and small brown faces.

Listen a moment! don't you hear
Him nibbling somewhere very near?

But who can tell, so sly the elf,
In what odd corner, box, or shelf?

Let's scatter crumbs all round about;
This bit of cheese may tempt him out.

Now let us keep, as still, as mice,
That we may catch him, slick and nice.

But first of all, we'll make a rule
To keep in order this play school.

All those who speak, or laugh, or cough,
To frighten mouse, shall be sent off.

Of those who stay—all ears and eyes—
Who gets him first shall have the prize.

Now order! silence! there he comes
A-peeping out after the crumbs.

Surround him, all, north, south, east, west,
Now girls and boys, each do your best.

With salt in hand so softly tread,
For thus, in truth, I've heard it said,

If but one grain fall on his tail,
He'll stand as still as any nail!

Now mind the rule, all hands and eyes,
Who grabs him first will own the prize,

A rapid charge, a rush, a rout,
Of scampering feet all round about;

Cornered by some, then dodging all,
Across the floor, around the wall;

Under the table, over chairs,
Behind the bed, and down the stairs,

Quick, shut the door, the window close,
Swift through the hall away he goes,

To breakfast room, in cupboard wide,
Seeking in vain a place to hide;

Among its piles no sheltering hole,
Now in, now out of sugar bowl.

In vain mama commands "Be still!"
"Soon as he's caught, mama, we will!"

Then fast, as he, away we go
To cut what dash who cares to know.

In vain seeks Kate the noise to quell,
The more she scolds, the more we yell,

Bang, clang, slam, jam, a mighty racket,
With untucked frock, and rended jacket,

At pantry door at last we stand
A stoutly tried, victorious band.

A pan of milk, fresh-strained, and white,
Unbridged, here yawns upon his sight.

Too late he sees; 't is all in vain
To attempt to escape this treacherous main.

So caught at last, head over heels,
Our valiant mouse, the battle yields.

[END OF PART FIRST.]

A Talk about Tree Toads.

"Who wants to hear about such ugly things," perhaps you will say. Indeed, I have heard children say: "I can't imagine what such ugly creatures as toads were made for." But toads are *not ugly*, and the tree toad is not ugly looking; and as the same power which made us, made the toads, we must suppose that they were made for some useful purpose. I have seen two kinds of tree toads; one kind is about an inch long, the other about an inch and a half. The smaller one is of a greenish yellow color on its upper side, and of a dirty white on its under side.

The larger one is a light grey, with spots of dark grey, above, below, same as the other.

The smaller kind are usually found on trees and bushes, the larger kind, on fences and old buildings. But I have seen each kind about the house The feet of these toads are very curiously formed. On the under-side of each foot are several papillæ, or soft elastic bunches, and the ends of the toes are in the form of a ball, each toe having a papillæ. It is by means of these papillæ, that they are enabled to climb.

When the foot is pressed against any thing, the papillæ flatten out, and then rise up from the surface in the centre, forming a vacuum, that is, a cavity or hollow without air, and thus they are enabled to cling firmly, so as even to climb upon glass, like a fly. Put one into a tumbler, or into a glass jar, and you can see the whole process. Its manner of obtaining food is quite as singular as that of climbing. It has no teeth, nor does it use its feet to catch or hold anything, neither does it catch or take up any thing with its mouth; and some people used to think that it lived on air. But that was a great mistake, for it is well known that it lives on *insects*, and that it catches them with its *tongue*, which is so formed that it can be elongated or stretched out, and is covered with a slimy, glue-like substance which fastens to it any insect which it touches; and wo be to any musketo, miller, or fly, that gets within reach of Sir Toad. Sometimes when an insect comes near, but not within reach, Mister Toad will move slowly and steadily towards it, fixing his eye upon it, seemingly with mesmeric power, till he gets near enough, when he makes a sudden spring, darting his tongue out quick as a glance, securing his prey, which he swallows very quickly. Sometimes a tree toad will take a station on the outside of a window, in the evening, and pursue its avocation, by catching insects which are attracted by the light. The tree toads, like their cousins, which live in the marshes, are fond of music, though they do not sing the same song. Their note is a Tr-r-r-r-r-r, made with a clear, quick vibrating or trembling tone.

They have a singular habit of singing just before a shower, more than at any other time. I have many times heard scores of them at once, on the trees, bushes and fences, when there was a shower coming up.

They do not sing in the night, and seldom when in confinement. I once had one, which would occasionally sound a few notes. It would not touch an insect, unless it was alive, and I never knew one to fail of catching an insect when it made the attempt. Toads are amphibious, that is, they pass a portion of their lives in the water, and a portion on the land. They start in life in the shape of a *tadpole* or *polliwog*, hatched from an egg in some puddle of water. At first it is without legs, but has a tail like a fish, after a while it undergoes a transformation or change: a pair of legs, the hind ones, commence growing, next the fore legs are developed, the tail gradually shrinks away, finally disappears—and the polliwog, which could live only in the water, and move by swimming, has become a land animal and travels by means of legs. Toads are cold-blooded animals, which makes them feel cold to the touch, and their lungs, being much smaller than warm-blooded animals of the same size, enables them to live with less air, and to remain a longer time without any.

UNCLE WILLIAM.

[Another article on the "Hare," by "Uncle William," will be published next month.]

NEWS ITEMS.

—There are at the present time 3,888 sick and wounded soldiers in the different hospitals in the District of Columbia.

—The new iron clad Cunard steamship Scotia, just arrived at New York is, except the Great Eastern, the largest steamer in the world.

—The British Bible Society has voted $10,000 to the American, in aid of the diminished receipts of the latter during the present war.

—"I shouldn't care so much about the bugs," said a thin pale lodger to his landlady, "but the fact is, ma'am, I hain't got the blood to spare."

—The Sheriff at Leavenworth, Kansas, advertises that he has "some 'jayhawked' horses" in his possession which the owners can have by proving property.

—Fifty rebel nurses who came to Washington with wounded prisoners, under the pretence of tenderly caring for them, have been committed to the Capitol prison.

—The army correspondent of the Savannah *Republican* says the rebel loss at the battle of Shiloh, on the 6th and 7th of April, was fully 10,000 in killed, wounded, and missing.

—The rebels, as well as the federals, claim the victory at Williamsburg. If it is difficult to know which side won the battle, it is very easy to know which won the battle field.—*Louisville Journal.*

—It is estimated that the administration is now feeding and clothing over sixty thousand negroes—men, women, and children. The money necessary to do this is drawn from the national treasury, under the plea that it is used for war purposes.

—Congress has just passed two bills, in anticipation of the rebel army arriving immediately in Washington. It would be profitable to keep a small rebel army near Washington to march upon the Capital occasionally, when legislation lags.

—Of the rebel prisoners at Camp Douglas, Chicago, three hundred and forty-two have died and there are three hundred and twenty yet in the hospital. The whole number of rebel prisoners at that place is over six thousand.

—Coal oil is said to be a sure destroyer of bedbugs. Apply plentifully with a small brush or feather to the places where they most do congregate. The cure is effectual and permanent. Gilt frames, chandeliers, &c., rubbed slightly over with coal oil, will not be disturbed by flies.

—From a calculation made, it has been shown that it would take 300,000,000 shots to dispose of 60,000 men in battle. 60,000 men fighting continuously for forty-eight consecutive hours, each man firing in all 300 shots, would fire altogether 370,000,000 shots.

—Much inquiry is excited in consequence of the destruction of the Navy Yard at Gosport, *after Norfolk had been surrendered!* It appears that the first intelligence that the Navy Yard was uninjured at the time of the surrender was correct, but, at 10 o'clock the next morning, openly before the sun, the buildings in the Navy Yard were fired, and property worth millions destroyed. Now this is the history: Norfolk and its surroundings, after being taken, while in our possession, and guarded by Union troops, was suffered to be despoiled of the public property therein! The query is pregnant, why was not a sufficient guard placed over the Navy Yard and the public property to prevent the destruction that happened?

—An old ballad, written doubtless by the most impecunious of poets, celebrates the fugacity of money in the following crisp and lively verses:

Money goes! no one knows;
Where it goeth, no one showeth;
Here and there, everywhere;
Run, run; dun, dun;
Spend, spend; lend, lend;
Flush to-day, short to-morrow;
Notes to pay, borrow, borrow;
So it goes, no one knows;
Where it goeth, no one showeth!

—A shoal of whales ran ashore lately near Whiteness, on the Isle of Shetland, and, getting into shallow water, immense numbers—some 400, it is said—were captured by the islanders. They were attacked both by sea and land. Some escaped, but were wounded, sank, and afterwards rose to the surface and floated ashore, so that almost the entire shoal was captured. People came from miles around, and a number of riflemen hurried to the spot to enjoy the novel sport of whale shooting.

—Captain Ericsson has planned a large sea going Monitor with a single turret, plated with iron twenty-four inches thick, and armed with two guns, carrying a ball 1,000 pounds in weight. Two, at least, of these formidable vessels will probably be ordered. The Monitor is regarded as the best of all iron clad floating things yet tested.

Providence, May 28.—Gov. Wm. Sprague was to-day elected U. S. Senator for 6 years, from the 4th of March next, when the term of Senator Simmons expires. He received 92 out of 103 votes. There was no regular nomination in opposition.

—Wm. McCuan, of this city, who will be recollected as having done much of the stone cutting on the Central Bank and Jackman and Smith's new buildings, was killed at the battle of Farmington. He had enlisted in the 16th Illinois regiment.—*Janesville Gazette.*

Death of an Editor.—J. W. Gray, for many years the editor and proprietor of the Cleveland *Plaindealer*, died of congestion of the brain, on the 26th inst.

EDUCATIONAL.

Letter-Writing.

Writing letters is an art for which extremely few are celebrated. Lady Montague, Gray, Cowper, Goldsmith, Burns, and Lord Byron, are unrivalled in this department of English literature. The hitting of the subject between wind and water—elegant familiarity, without pedantic stiffness and serpentine periods "dragging their slow length along;" the tasteful undress of the philosopher, with his cloak off at home—of the poet, taking a holiday, like one of the Homeric gods descending upon occasions to feast with Ethiopians—of the statesman, who, instead of jumping with feat oratorical, jumps against other statesmen off subject on to subject, on the floor, saying, "My dear fellow, will you enjoy with me a turn or two at leap-frog?"—of the hero, laying aside his hat and feathers, and becoming as playful as a cricket, or one of his own children: this is what gives the true charm to letter-writing; and in imparting to it this air of abandonment consists the great art, the most perfect when most concealed. Letters that are treatises (apart from their value to a certain line of professionals), *as letters* are insipid. Such, for instance, are those of the great poet and statesman, Grotius, resembling rather a huge pile of Dutch millstones, than a beautiful assortment of porcelain. Some are so impatient of letter-writing, that they sit down about twenty minutes before the mail goes—snatch pen, paper and ink as they would snatch the leg of a turkey at a railway station—perhaps upset an ink-bottle—stick the letter in an envelope, or, what is worse, fold it in a careless, slovenly manner—hastily apply the mucilage or sealing wax, and perhaps despatch it without *date*, or sometimes a *signature*.

The cultivation of this useful and ornamental art is particularly demanded in a country like this, where millions of emigrants find in it the only means of holding converse with their kindred on the opposite shores of the Atlantic, and planting republican seeds in the fallow grounds of despotism. Progress in this delightful accomplishment would make it more frequent—promote mental cultivation—increase the general happiness, and furnish an additional revenue. It merits universal cultivation. There is no department of writing so calculated to please as this, whether we find it perfected in the pages of Junius, or find it naturalized in the correspondence of two, in particular, of our American writers—Bryant and Willis. It lends the most delightful charm to the public journal; it often elevates the poor in the estimation of the rich, and lays the foundation of a future fame and fortune. And newspaper correspondence, at least, would escape the dogbasket and edify the community—and many crosses be at once taken off an editor's devoted shoulders, were the art of letter-writing more generally and attentively cultivated.—*Chicago Record.*

☞ President Felton, of Harvard University, in his inaugural address, made use of the following suggestive language:

"Our young American needs, more than the European youth, the training that shall give him *composure* and *self-command*—that shall give him the mastery of his faculties, and the habit of steady action. He is a citizen of a vast republic, wherein every man has his career to open, his fortune to make, his success to achieve. He feels, every moment, the social or party pressure, and the weight of individual responsibility. These very circumstances make the period in which we live one which tempts the young man into premature activity. He is allured into the busy scene when his faculties are but half unfolded; his principals are as yet uncertain; his views vague, his hopes gorgeous as the rainbow, and perhaps as fleeting and unsubstantial. His tastes unformed; and his moral being crude as the unripe fruit of every summer. A solid character is not the growth of a day—the intellectual faculties are not matured without long and vigorous culture. To refine the taste is a laborious process—to fortify the reasoning power with its appropriate discipline, is an arduous undertaking. To store the mind with sound and solid learning, is the work of long and studious years. It is the business of the higher education to check this fretful impatience, this crude and eager haste to drink the cup of life—to exhaust the intoxicating draughts of ambition."

Reading.—Comparatively speaking, good readers are more plentiful than good spellers. As a refined accomplishment, as a pleasant social embellishment, excellence in Reading can not be too highly appreciated. "To read as one talks" is the rule; yet how few reach that standard! Short reading-lessons, selected with a view to varied intonations, emphases, pauses, and inflections, should be chosen, and read and re-read, until a good degree of excellence be attained. And let it be understood that in this branch, not less than in others, *thoroughness* rather than *rapid progress* is requisite.

The most common fault is that pupils are permitted to read too fast. Few grown persons, who are accounted good readers, take sufficient time. Let it be remembered that *to read well* you must *read slowly*. You can not expect to make a superior reader unless you follow this rule strictly. Enter what school you will, and you will find more scholars using the wrong reader than the right one. In nine cases out of ten they will be found using a book at least *one grade* above the proper one, and half the time *two* grades.

WAR MISCELLANY.

ODE.

DEDICATED TO THE MEMORY OF GOV. L. P. HARVEY, OF WISCONSIN.

Sob! Sob!
Sob, wild west wind, a people's pain!
Weep! Weep!
Weep, April skies, your saddest rain!
A nobler brow was never lain
Beneath the waters falsely fair;—
We call in vain—
Cruel surges mock our prayer.

Droop, Freedom's flag, along the sky,
While slowly strike his funeral knells—
Yet *he* has heard with kindling eye,
The chime of Heaven's welcome-bells!

With ministry of word and deed,
To those who fell in glorious strife,—
Their grateful prayers a priceless meed,—
He crowned the mission of his life.

The wounded soldier, moaning low
Of love and home, the weary while,
Looked up with pulses all aglow,
To catch the sunlight of his smile.

So soft the tone that soothed his ears,
So warm the hand enclasping his,
That, almost, through his blinding tears,
The sufferer felt his mother's kiss.

We cannot call him dead, the good
And loyal soul we mourn to-day;
He passed the baptism of the flood,
Then woke to walk the shining way.

Farewell, brave chieftain, thine the sweep
Of endless joy, a shortless wave;
But ours to bless thy name, and weep
The hopes low-buried in thy grave.

The West.

"I hear the tread of pioneers,
Of nations yet to be;
The first low wash of waves, where soon
Shall roll a human sea—
The elements of Empire here
Are plastic yet and warm.
The chaos of a mighty world
Is rounding into form—
Each rude and jostling fragment soon
Its fitting place shall find,
The raw material of a State,
Its muscle and its mind. WHITTIER.

Brig.-General Ambrose E. Burnside.

General Ambrose E. Burnside, U. S. A., is one of our most gallant officers. He was born some thirty-seven years ago in Indiana, and entered the Military Academy at West Point from that State. On graduating, he entered the Second Artillery, and served in Captain (now rebel General) Bragg's company for several years. Some six or seven years since he invented a carbine of peculiar merit; and resigning his rank in the army (which was that of lieutenant), devoted his whole time to his invention. At that time it was intended to arm the United States Army with some improved weapon, and several inventors competed for the prize. Among others Burnside's rifle was the subject of many tests, and, in the opinion of good judges, was the best of the many pieces offered to the War Department. The inventor had reason to believe that it would be the one chosen; he had, we understand, assurances to that effect from John B. Floyd, then secretary of war, and was thus induced to incur heavy outlays to bring his weapon to perfection. But the fact was that Floyd had already made a secret bargain with another inventor to decide in favor of *his* rifle, on the condition that he, Floyd, was to participate in the profits of the invention.

This appalling discovery was made by Maj. Burnside after he had incurred very heavy expenses to bring his weapon to perfection. He was a ruined man. He returned to New York without occupation, without money, and with heavy debts pressing for payment. Like many other enterprising, determined men, he concluded to try his fortunes in the West, where he had the good fortune to meet with Wm. H. Osborn, Esq., the president of the Illinois Central Railway, whose experience, sagacity and great business qualifications, enabled him at a glance to form a correct judgment of the qualifications of the man; and being at once struck with his remarkable merit, offered him a post by the side of the present General McClellan, who at that time occupied the position of vice-president. He served the Illinois Central until the outbreak of the war, at the time occupying the position of treasurer. While in the employ of the Company a fortunate legacy raised him to a position of affluence.

His bravery at the battle of Bull Run, where he had the command of a brigade, won the approval of all. Perhaps no higher compliment could be bestowed than his designation to command the great expedition to the Southern coast, popularly named the "Burnside Expedition," which sailed about the middle of January.

General Burnside is a very fine-looking man, and very winning in his address; he is very popular, and calculated to make friends wherever his future may be cast.—*Railway Guide.*

[On the next page will be found a very good likeness of Gen. Burnside.]

Since the sketch on the preceding page was written, the military career of Gen. Burnside has been such as to stamp him as one of our first and best generals.

"Seldom has so rapid and brilliant a series of victories occurred, as that which illustrates the Southern expedition commanded by Gen. Burnside. Delayed for a month by unexpected difficulties in crossing the bar at Hatteras, the public expectation was, for a while, disappointed. But since these difficulties were overcome, his energy and rapidity of movement have been conspicuous. First came the decisive conflict of Roanoke Island, with its 3,000 prisoners, the largest number that had then been captured at any one point, and since excelled only by the great victory of Fort Donelson. Next, the brilliant dash at the Confederate fleet, resulting in its total destruction at Elizabeth City, and the capture of that place. Then, we had the expedition up the Chowan River, and occupation of Winton, a movement which threatened Norfolk, and turned the attention of the Rebels to that quarter. After a brief delay, for organizing his forces, he struck Newbern, and achieved the difficult capture of its miles of batteries. The advantage of this rapid series of movements has been that the Rebels are quite bewildered by it, and know not where to expect attack or prepare resistance. The assault upon Newbern owed much of its success to the promptness of the stroke. Recent accounts inform us that on the day of his arrival 16,000 Rebel troops were on the railroad between that city and Goldsborough. A hesitating or dilatory attack would have brought this force to the relief of Newbern, and rendered the capture of the batteries there a very difficult and bloody, if not an impossible, task. The occupation of Newbern was instantly followed by preparations for an attack upon Beaufort, a sea-port lying some thirty miles southeast of it, and connected with Newbern by railroad. We have now the news that this prompt attack is again successful. The enemy have abandoned the city, and Fort Macon—the most important in North Carolina—is again in our hands."

The Pension Bill.

The following is the Pension Bill as it passed the House on Tuesday last:

It provides that officers and men of all grades, in the army and navy and other branches of the service, who have been, since the 4th of March, 1861, or shall hereafter be disabled by reason of wounds or disease contracted in line of duty, shall be placed upon the list of invalid pensioners. Colonel and all others of a higher rank are to receive a pension of $30 per month; Majors, $25; Captains, $21; First Lieutenants, $17; Second Lieutenants, $15; non-commissioned officers and musicians and privates, $8. In the naval service, Captains, Commanders, Lieutenants Commanding and Masters Commanding, $30 per month; Lieutenants, Chief Engineers, Surgeons, and Passed Assistant Surgeons, $25; Professors of Mathematics, Assistant Surgeons, Paymasters and Master, $20; First Assistant Engineers, Pilots, and Assistant Paymasters, $15; Teachers, Schoolmasters, Passed Midshipmen, Captains' and Paymasters' Clerks, Second and Third Assistant Engineers, Masters' Mates and warrant officers, $10; all petty officers, $8.—All commissioned officers of either service shall receive only such pension as is thus provided for. If any officer or other person not named in the first section has died since the 4th of March, 1861, or shall hereafter die by reason of any wound or disease, &c., his widow or his children under eighteen years of age, shall be entitled to the pension, which is to continue to the widow during her widowhood, or to her children until they severally attain the age of eighteen years, and no longer.

Where any officer or other person named, shall have died subsequently to the 4th of March, 1861, or shall hereafter die, and has not left or shall not leave a widow or legitimate child, but has left or shall leave a mother who was dependent upon him for support, in whole or in part, the mother shall be entitled to receive the pension, provided the pension given to the mother on account of her son shall terminate on her marriage; and provided, that where any officer or other person has not left or shall not leave a widow nor legitimate child, nor mother, but has left or may leave an orphan sister or sisters, under eighteen years of age, who were dependent on him for support in whole or in part, they shall receive the pension to continue until they shall severally arrive at the age of eighteen and no longer. The widow of any volunteer who shall hereafter be killed or die of wounds or disease contracted while in the military service during the present rebellion, and before receiving the bounty herein provided for, and if no widow the minor child or children, if there be any, and if there be no minor children, then the mother, and if no mother, then the father of such deceased soldier, shall receive in addition to all arrears of pay and allowances for bounty of one hundred dollars, and no money shall be paid to such, or to any heirs of any deceased soldier on account of bounty, back pay or pension, who have been in any way engaged in, or who have aided or abetted the existing rebellion in the United States; but the right of such disloyal heir, or heirs, of such soldier, shall be vested in the loyal heir or heirs, of the deceased, if any there be in the order named. A special agent is to be appointed to detect and prosecute frauds against the pension law.

Disposition of Soldiers on the Eve of Battle.—A correspondent of the Cincinnati *Commerical* says:

"Civilians naturally enough suppose the eve of a great battle to be an occasion of sad suspense and anxiety on the part of those who expect to participate in the contest. They greatly err in this. The experience of every one who has paid any attention to the matter is, that there is never more noisy levity and more apparent buoyancy of spirits in camp than when opposing armies are within hailing distance of each other. Euchre, old sledge, and their concomitants always succeed marching orders. Certain it is, there never was more fun-making noise in the camps of Gens. Hurlbut and Sherman than on Saturday evening last, when it was confidently expected that a great battle would be fought inside of forty-eight hours. In anticipation of the grand struggle, a number of sham battles were fought between Beauregards and Hallecks, suddenly promoted from the ranks—always resulting, of course, in the triumph of the Federals and the complete overthrow of the Confederates. You cannot make a soldier feel 'solemn' by assurances that the conflict will be a desperate one; you cannot make him exchange 'Marryatt's best' for the last issue of the Tract Society, by telling him how many brave fellows met an untimely end at Donelson or Shiloh; you cannot lessen his joy at getting a 'good hand' by narrating the probabilities that his regiment will be exposed to a galling fire during the entire day."

Good Advice.—The Albany *Journal* offers the following advice to military heroes:

Henceforth let our Generals attend to the legitimate business of their profession and leave mere questions alone. Let them, for the future wield the sword instead of the stylus. Let them devote themselves to slaughtering Rebels instead of slaughtering the King's English.

A Brave Boy.—The brave boy who, during the early part of the battle between Shiloh and Pittsburg Landing, became separated from his regiment, the 18th Missouri, and fought, by special permission of Capt. Crowley, in the 32d Illinois, proves to be John I. Shehan, of the town of Plymouth, Rock county, and not "John I. Shaw, of some village in Wisconsin." All honor to the brave boy.

NEWS SUMMARY.

Grant County Ag. Society.—We find the following in regard to the Grant County Agricultural Society in the Grant Co. *Herald:*

OFFICERS OF THE SOCIETY.

President—S. F. Clise, of Ellenboro.
Vice Presidents—H. Utt, of Lima, Abram Carns, of Hazel Green.
Treasurer—T. M. Barber of Lancaster.
Secretary—J. W. Blanding, of Lancaster.

The following named persons in connection with the above named officers, constitute the Executive Committee, viz.:

Philip Shillian, of Hazel Green.
W. W. Wright, of Potosi.
W. W. Field, of Fennimore.
Wm. Humphrey, Patch Grove.
Orris McCartney, Cassville.

Committee on Constitution—Heary Utt, Abram Carns, F. A. Bevans.

Supt. of Fair Grounds—Wm. N. Reed.

POLICE OFFICERS.—J. B. Moore, *Chief*, T. R. Chesebro, F. B. Phelps and Thos. Gow.

LIFE MEMBERS OF THE SOCIETY.—J. B. Callis, A. Burr, M. M. Zeigler, J. C. Holloway, Henry Utt, J. Allen Barber, Wm. H. Foster, G. W. Ryland, Matt Van Vleck, T. M. Barber, Wood R. Beach, J. G. Clark, J. P. Lewis, J. A. Jones, D. Ward, J. C. Cover, D. H. Budd, S. O. Paine, Abram Carns, E. D. Lowry, J. J. McKenzie, W. McGonigal.

The Constitution, Regulations and List of Premiums of the Society appears in our paper this week, and the paper containing the same should be kept for reference, as there will not be printed a sufficient number of pamphlets containing the same matter to supply all interested. The pamphlets will be printed soon, giving the same matter with other useful information. We ask that any defects discovered in the parts printed this week may be reported immediately, so that the pamphlet edition can be made perfect, especially in the classifications and premiums. All premiums marked with a star, or other reference point, will be paid in volumes of agricultural papers, the *Wisconsin Farmer* or *Working Journal.*

The Fair will be held on the 18th and 19th of September.—*Grant Co. Herald.*

Markets.—We find the following as the ruling prices in the grain markets:

CHICAGO, June 2.—The demand for flour is still very light, and the tendency continues downward. The sales were light at $3,75a$3,85 for good spring extras, and $4 for very choice do.

The wheat market suffered a decline of 1c per bushel, and closed quiet with sales only about 80,000 bushels.

MILWAUKEE, June 3.—The flour market remains at a stand. The demand is limited and holders evince no disposition to sell at the prices offered.

No change in coarse grains. Good sound oats bring 26c delivered, and corn 27c. Rye in store at Smith's elevators sells readily at 43c, but there is no demand for it at present in other houses, or to be delivered, at more than 42 cents.

Government Vouchers.—It will be interesting to the creditors of the State, to know that the vouchers in the Secretary of State's office, have been copied, and placed in the hands of the Governor, who has sent them to Washington, for settlement. It will probably be a month or six weeks yet, before any money will be realized from them.

Military.—The recent call for another Regiment from this State, has stirred up the war feeling again, and we find the places as recruiting officers for the 20th Regiment are all filled, This is probably the last regiment which will be called for from this State.

An effort will be made by the Legislature now here to perfect a bill for the organization of the militia of the State, so that in case there should be another sudden call, Wisconsin will be ready to muster her armed men at a moment's warning, as did old Massachusetts, when she received the President's last call.

The War.—The telegraph brings news that Beauregard's army has become disorganized by the cutting off of its line of retreat, and the capture of 10,000 prisoners and 15,000 stand of arms by Gen. Pope. This is good news, and we hope that we shall have more of the same sort. We have heard enough of Quaker Guns both at Manassas and Corinth, and hope for a little real fighting.

EDITORIAL MISCELLANY.

☞ All communications, of whatever kind, intended ☞ for the EDITOR *should be addressed to him ex-* ☞ *clusively;* all *remittances of money and* all ☞ *business* letters, *to the Publishers.* The offices ☞ are separate and distinct, and attention to this ☞ request will save the Editor a great deal of time ☞ and trouble, while at the same time, it will di- ☞ minish the liability to mistakes.

Editor's Trip to Europe—Brief Notes by the way.—STEAMSHIP "NIAGARA," off Nova Scotia, April 17th, 1862.—After considerable delay at Milwaukee, misfortunes in the way of delays and a small robbery at Chicago, a pleasant ride over those excellent and well-conducted roads, the Michigan Central and Great Western, another delay of a whole day at Buffalo, whence we reached New York by the way of the New York & Erie R. R., a delay of two and a half days for a steamer which finally could not sail, and a subsequent trip to Boston,—after all this, and a great deal more of a vexatious character that we do not care to mention, we find ourselves, at last, fairly at sea, some two hundred miles from port, and steadily nearing the Nova Scotian shore.

Thus far a delightful voyage, with everything in our favor—except that we sail under the flag of old England instead of the dear old Stars and Stripes, and have little or no American company. But all this is of small account—unless, indeed, the Cross of St. George may be deemed a safer ensign, just now, than even the Flag of the Union. We feel secure, at least, against the piratical flags which the "Southern Confederacy" so boastfully flaunts here and there on the seas.

The first half day was rainy, but the one just closed has been among the brightest and most beautiful ever vouchsafed to voyagers on this or any other sea. For the first time in our life we have seen the sun rise and set in the same blue waters without a visible shore beyond. To say that we kept the deck from morning till starry even, nor ceased to fill our souls more and more with the sublimity of the scene were needless, and yet this is all we *can* say. It is not in the power of words to convey any just idea of the first emotions begotten of old ocean in the soul of a truly devout worshipper of God in nature. The mighty deep beneath and around as far as the eye can reach—the blue etherial dome above,—the glorious orb of day more golden and more majestic than ever before, and the lesser orb of night, more mild and beautifully radiant in the midst of the host of her attendant sparkling spheres,—there is nothing like it on the land, and this one experience is well worth the trouble and peril of going to sea.

To-night we are to touch at Halifax, from which point this brief and hasty letter will be posted for the pleasure of those of our readers who have a personal interest in the welfare of the author. Our next words will come to you from "the other side."

The Editor's Journey to Europe, and the Opening of the Great International Exhibition.—MID-OCEAN, Saturday, April 26, 1862.—Our last "notes by the way" were written off Nova Scotia. If we remember, they were at least partially open to the charge of enthusiasm so far as the account pertained to the ocean voyage up to that date. But the days subsequent, indeed almost the entire week just closed, have most forcibly illustrated the change that is liable to come in every one's fortune; for on Monday, the 21st, the sun, whose radiant beams had hitherto cheered our way, veiled his face in dark, portentous clouds and the ship's crew prepared for a storm. This preparation was not in vain, nor were the hopes of those of us who were anxious to see old ocean in his fiercest mood doomed to disappointment. We had had visions of storm-tossed vessels wrecked and sent down to the bottomless depths, but those sad calamities were remembered to have usually occurred on the coast; and being now out in the open sea, although in the vicinity of icebergs—some of which in all their crystal glory and grand magnificence had been seen by us in the morning of the 21st, and but barely escaped in the night—we were nevertheless petitioners to Neptune for a special display of his power in stirring up the briny deep. It need hardly be added, our prayers were answered with a most commendable promptness, and to a degree even beyond satisfaction. Old Boreas, whose winds had been pent up many days in the icy region of the Arctic zone, appeared to have been particularly charged to do his best, and most faithfully did he perform his part in the grand drama of which we were at first the delighted spectators, but finally and chiefly, the most terribly tortured victims.

The trouble was that in asking for a storm, we omitted to stipulate that it should ever cease—presuming, simply enough, that the sea would at least be courteous to strangers on an important mission of peace and industry and so become calm again when politely requested. But, as just said, we neglected to wind up our petition, like indefinite advertisements, with a "tf." (till forbidden) and accordingly, having once commenced, the storm lasted just ten times as long as we had intended—continuing five days, almost without abatement, and only mercifully calming off as we approached the coast of Ireland and were about entering the more dangerous waters of St, George's Channel.

For more than a day we kept our place on the upper deck, making observations upon the altitude of waves, the grand swells of the vast waste of waters and enjoying the roll and pitch of the gallant *Niagara* as she alternately descended, as if going into the very depths of the sea, and rose again to the summit of the mountain wave that threatened to overwhelm us; but about noon of the second day slight symptoms of gastric derangement(!) together with the fierce dash of waters upon the deck and clear over the ship, admonished us that the water tight state-room of the cabin below would be a fitter place.—Still we held our position, and not until a ton or more of

brine leaped the bulwarks, and in one grand fierce dash came near sweeping us overboard did we relinquish it and give ourselves up to the old demon of the ocean, sea-sickness. Of this we can only think with pain and shrinking at the being probably again subjected to it on our return. To describe it is impossible. The unutterable loathing of everything on shipboard, particularly in the Steward's department, and the settled determination to somehow discover an overland route back to America have not gone from us.

But the storm and the demon of the stomach are now behind us; the sun shines once more, and the clink of dishes in the dining cabin does not arouse the same bitterness of disposition to utterly abolish the whole digestive apparatus.

OFF CORK, Sunday, April 27th.

The mountain cliffs of old Erin, but dimly descried in the morning, and which brought up from the depths of our heart the glad shout of land! land! are now in plain view before us, and nearly all day long we have had a beautiful panoramic view of the coast, verdant with vegetation, or brown with the cultivated soil. Here and there is a little village, and all along are the old Martello Towers, the terror of smugglers in times past and now.

Just now the spacious and beautiful Harbor of Cork, shut in by the hills and with Queenstown nestling under the bluff on the right comes into view, and we must get out our Sketch Book and go up on deck. The twilight comes, and as the *Australasia* has just passed us carrying the only mails which will leave England before Saturday next, we shall give our readers other notes by the way ere our final despatch by the *Scotia*.

LIVERPOOL, Monday, April 28th.

It is now just coming night. The morning was foggy and we were unable to make rapid progress across the channel. But the afternoon has been glorious, and the view of North Wales most charming—Mount Snowden, the highest elevation in the British Islands, the principal object of interest until now, the green slopes and lordly mansions of Brikenhead greet our eyes. This is a beautiful town on the south side of the Mersey, just opposite Liverpool, which also is coming into view, with its massive stone docks—five miles in extent along the shore and the most capacious and costly in the world—and forest of ships. Already we are steaming up the river and the custom officers will soon be aboard to see if we have anything *contraband* in our luggage.

The *Niagara*, although generally understood to be one of the slowest ships of the Cunard Line, in view of all the circumstances has done nobly, getting us into port on the 12th day from Boston. She is a paddle ship, and has been fifteen years buffeting the waves of old ocean. In this voyage she has been officered by gentlemen, who, though many years in the service, have been very recently transferred to this ship. Captain Cook is a quiet reserved little man with firmness and clock-like regularity in all his orders and appointments. The orderly conduct of the crew has been remarked by every one. Indeed, as we are informed, perfect order, regularity and propriety of officers and sailors are characteristic of the Cunard Line generally. During the twelve days we were aboard, we heard not a single loud, rough, vulgar, or profane word from either commanders or crew. The company have at present a very large patronage, and are constantly building new ships after the most approved models, some of them screw and some paddle ships. The *China* has made the trip from New York to Liverpool in less than nine days. Others of the Line are also fast boats. The price of passage is higher—$130, first cabin, from New York; $110 from Boston—than by any other line, but the excellent character of the ships and of the management, together with the fact that this company has never lost a ship at sea, have secured the confidence and patronage of the better portion of the traveling public. We have not been pleased that Exhibitors at the International Exhibition and even Commissioners are charged the full price for passage and transportation, but felt bound to say what we have said for the information and advantage of the traveling public who may be desirous of disinterested advice on this subject.

LONDON, April 29th.

Getting ashore at Liverpool at so late an hour that we could not conveniently get off for London until the following morning, we remained over night and resumed our journey in the morning, via Northwestern & Trent Valley R. W. Of the city of Liverpool we, of course, saw but little, though we employed our time most industriously while there. It is undoubtedly the greatest commercial metropolis in the world, and in appearance and in the manners and customs of its people, the most *American* city in the British Kingdom; indeed, but for the narrowness and crookedness of its streets, we would scarcely have known that we were not in New York.

The railroad, however, and everything connected, quickly dispelled all doubts on that point and entirely satisfied us that we were not in Yankee Land. The miserable *coaches*, as they are properly called—being similarly shaped and but little longer and higher—with doors at the side were provocative of both laughter and indignation—laughter at their queer absurd appearance, indignation that John Bull in his vain conceit should so long have refused to pattern after Brother Jonathan in the construction of proper railroad cars. Each coach is divided into three apartments. In each apartment there are two seats facing each other like the front and back seat of a stage-coach, and long enough to accommodate four persons each. There are no moveable windows, except in the doors on either side, in which there is a pane of glass let up or down by a strap, stage-coach fashion. Of course ventilation is more difficult and the getting up and moving about to rest one's self, or to look up a friend on the train, is out of the question. In some of the coaches—perhaps in all—the middle apartment is used for baggage; in which particular the arrangement is quite convenient, as one's luggage can be more easily looked after. True to the English idea of caste, the coaches

are labeled "First Class," "Second Class," and "Third Class." First class coaches are comfortably cushioned, second class coaches favored with a kind of half cushion of leather extending about half the width of the seat from the front with leather at the back, and third class coaches are furnished with bare benches. The fare in the 1st class is one-third to one-half higher than the regular fare in the United States, in the 2d class about equal to regular U. S. fare, the 3d class a little less. The engines are plain, bungling looking things, in strong contrast with the fire locomotives of America. But when we come to speak of the road itself, we have none but words of commendation. Substantial in construction and excellent in all its appointments. More of this anon.

The route to London presented to our view a succession of the most charming pictures we have ever beheld—pictures all the more pleasing and grateful because of the snow and ice we had but so recently left in America. Here the scene was so changed that we appeared to have come out of mid-winter as by a single step into the month of June. Beautiful verdant meadows and pastures "spotted with fire and gold in the tint of flowers;" sleek fat Durham cattle and Leicester sheep lying on the banks of beautiful streams and on the velvet knolls or wading in the tall grass; gardeners cultivating their cabbages, beets, onions and beans; farmers hoeing their wheat and planting their later spring crops; with cozy cottages, handsomer gentlemen's residences, and lordly castles, and new and thriving, or gleaning old cities and villages—their moss grown walls and turrets carrying one back a thousand years—all along the way, made the journey of 205 miles seem at once but a league and the stretch of a continent. The five hours and forty minutes occupied in making the *run* were soon passed, and ere we were aware of it, we were in London, the great metropolis of the world.

The Great Exhibition of 1862.—In the external appearance of the Exhibition Palace we were disappointed; not in vastness of extent, for it is larger than we had imagined, occupying 24½ acres of land, and with its lofty domes of glass flittering in the sun can be seen at a great distance, but rather in the lack of outside finish. But having seen the inside we find no fault with the heavy unpainted brick walls without: they were necessary to give strength and durability to so massive a structure, and the money which outside decorations would have cost has been wisely applied to improving the interior, which, now, with the display of articles on exhibition, is most grandly imposing. The following diagram will give the reader a general idea of the form and construction:

But this ground plan although over one-sixth of a mile in extent each way gives but a partial idea of the amount of space for the purposes of the exhibition, as the room in the galleries is also very great. The painting, gilding and fine artistic decorations of the entire exterior, give it a most gorgeous and imposing appearance, brightened by the brilliance of the light which pours in profusion through the glazed roof and domes.

The glass domes are 250 feet and 160 feet in diameter and near 200 high; the nave and transepts (portions through the center and across the east and west ends and which rise to the arched roof without galleries,) 100 feet high and 85 feet wide, corresponding to the ground aisles of some dreamed of but impossible cathedral. The cost of the entire structure is about two millions of dollars.

The display of articles on exhibition is indescribably fine, far surpassing anything that the world has ever seen before, not only in quantity and quality, but also in the number and remoteness of the countries from which they have come. In addition to the British Kingdom, the following countries are represented:

France.	Vancouver's Island.
Zollverein.	Nova Scotia.
Austria.	Tasmania.
Belgium.	Victoria.
Holland.	Bermuda.
Switzerland.	Newfoundland.
Denmark.	Ceylon.
Norway and Sweden.	Malta.
Russia.	Jamaica.
Costa Rica.	Dominica.
Peru.	St. Vincent.
Uruguay.	Trinidad.
Venezuela.	Barbadoes.
Ecuador.	British Guiana.
Argentine Republic.	New South Wales.
Brazil.	Queensland.
Turkey.	Victoria.
Spain.	South Australia.
Portugal.	Hayti.
Italy.	Bahamas.
Rome.	Natal.
America.	Western Australia.
Hanse Towns.	New Zealand.
Canada.	Ionian Island.
New Brunswick.	Japan, China.
Prince Edward's Island.	St. Helena, West Africa.
British Columbia.	Siam, Liberia.

The reader cannot expect a description of even the most important contributions until after we have given them more thorough study.

THE OPENING OF THE EXHIBITION,

which took place to-day, (May 1st,) was an occasion which can never be forgotten by those who were so fortunate as to witness it. It was an event of a life-time to most, and was felt by us to be well worth our long journey of 4,500 miles, storm and sea-sickness not excepted.

The weather (which thus far, since our arrival, has taken the force all out of the talk we hear about London rain and fog,) is as perfect as could have been wished. Early in the morning it rained just enough to lay the dust, but before 9 o'clock the sky cleared up and gave us the softest, balmiest and most golden May days we have ever enjoyed. The procession which comprised a great number of dignitaries attired in the most varied manner—some neatly and chastely, others gorgeously and fantastically—made a splendid pageant. Princes, Dukes, Archbishops, Lord Chancellors, Premiers, Lord Mayors, foreign Ministers and Ambassadors, including those just arrived from Japan, Hayti and Persia, each in the dress peculiar to his office and nationality—"some in velvets, some in lawns," of every variety of color and decoration, from the gaily fluttering ribbon to the jewelled buckle, button, sash and chain all flashing in the sun—moved in the grand procession as it entered the Palace on the south

side and with measured step passed along the crimson-carpeted aisles to the place of first ceremonial in the front of the throne. The following was the order observed:

1. Trumpeters of the Life Guards in State Uniforms.
2. Contractor's Superintendents.
3. Superintendents of Exhibition Arrangements.
4. Her Majesty's Commissioner's Superintendents of Building Works.
5. Contractors and Architect.
6. Council of Royal Horticultural Society.
7. Council of Society of Arts.
8. The Ten Guarantors of the Exhibition.
9. Building Committee.
10. Special Commissioner for Juries.
11. Chainmen of Juries.
12. Acting Commissioners for the Colonies and Dependencies of Great Britain.
13. Foreign Acting Commissioners.
14. Presidents of Foreign Commissioners.
15. Her Majesty's Commissioners for 1851.
16. Her Majesty's Commissioners for 1862.
17. Her Majesty's Ministers, to-wit:

HER MAJESTY'S MINISTERS,

Not being either Commissioners for the Exhibition of 1862, or Special Commisioners for the Opening.

The Right Hon. C. P. Villiers, President of the Poor Law Board.
The Right Hon. E. Cardwell, Chancellor of the Duchy of Lancaster.
The Right Hon. Lord Stanley of Alderley, Postmaster-General.
The Right Hon. Thomas Milner Gibson, President of the Board of Trade.
The Right Hon. W. E. Gladstone, Chancellor of the Exchequer.
His Grace the Duke of Somerset, First Lord of the Admiralty.
The Right Hon. Sir C. Wood, Bart., G.C.B., Secretary for India.
The Right Hon. Sir G. Cornewall Lewis, Bart., Secretary of State for War.
His Grace the Duke of Newcastle, K.G., Secretary of State for the Colonies.
The Right Hon. Earl Russell, Secretary of State for Foreign Affairs.
The Right Hon. Sir G. Grey, Bart., G.C.B., Secretary of State for the Home Department.

18. HER MAJESTY'S SPECIAL COMMISSIONERS FOR THE OPENING.

His Royal Highness the Duke of Cambridge, K.G.
His Grace the Archbishop of Canterbury.
The Right Hon. Lord Westbury, Lord High Chancellor.
The Right Hon. the Earl of Derby, K.G.
The Right Hon. Viscount Sidney, Lord Chamberlain.
The Right Hon. Viscount Palmerston, K.G., G.C.B.
The Right Hon. the Speaker of the House of Commons.

19. ROYAL PERSONAGES ATTENDING THE OPENING.

His Royal Highness Prince Oscar of Sweden.
His Royal Highness the Crown Prince of Prussia.
Gentlemen in Attendance on Royal Personages.

The Duke of Cambridge who was the Queen's representative to open the Exhibition, and the great political leaders, Lords Palmerston and Derby, were specially greeted with enthusiastic applause as they passed along. The Lord Chancellor and the Speaker of the House of Commons were attended by their Sergeants-at-Arms, bearing their massive golden maces.

The place appointed for the opening ceremony was under the Western dome where a magnificent canopy had been erected, draped with Utrecht velvet, with the Chair of State on a raised dais or throne, marble busts of Queen Victoria and Prince Albert having position on either side.

The Duke of Cambridge occupied the centre of the dais, with the Prince of Prussia on his right, and Prince Oscar of Sweden on his left, the other chief dignitaries grouped according to rank.

The Orchestra at the opposite end of the grand nave and under the Eastern dome embracing two thousand singers and four hundred instrumentalists, all selected by distinguished artists from every portion of the kingdom, pealed forth its music, "God save the Queen," and there was quiet. The Earl Granville then presented his address to the Duke of Cambridge, and after the response, the procession moved down the other aisle of the grand nave to the platform in front of the Orchestra. It was then that we heard such music as we shall probably never hear again: a grand overture by Meyerbeer, a Triumphal March, Sacred Music, Quick March and National Air and Chorule by Dr. Sterndale Bennett, to the following words by the Poet Laureate, (Alfred Tennyson):

Uplift a thousand voices full and sweet,
In this wide hall with earth's invention stored,
And praise th' invisible, universal Lord,
Who lets once more in peace the nations meet,
Where Science, Art, and Labor have outpour'd
Their myriad horns of plenty at our feet.

O, silent father of our Kings to be,
Mourn'd in this golden hour of jubilee,
For this, for all, we weep our thanks to thee!

The world-compelling plan was thine,
And, lo! the long, laborious miles
Of palace; lo! the giant aisles,
Rich in model and design.
Harvest-tool and husbandry,
Loom and wheel and engin'ry,
Secrets of the sullen mine,
Steel, and gold, and corn, and wine,
Fabric rough, or fairy fine,
Sunny tokens of the Line,
Polar marvels, and a feast
Of wonder, out of West and East,
And shapes and hues of Art divine!
All of beauty, all of use,
That one fair planet can produce,
Brought from under every star,
Blown from over every main,
And mixt, as life is mixt with pain,
The works of peace with works of war.

O ye, the wise who think, the wise who reign,
From growing commerce loose her latest chain,
And let the fair white-winged peacemaker fly
To happy havens under all the sky,
And mix the seasons and the golden hours,
Till each man find his own in all men's good,
And all men work in noble brotherhood,
Breaking their mailed fleets and armed towers,
And ruling by obeying Nature's powers,
And gathering all the fruits of peace and crown'd with all her flowers.

This was followed by a grand march by Auber, at the conclusion of which a prayer was offered by the Bishop of London. The Hallejugah Chorus and the National Anthem were then sung, when the procession returned to the throne, from which the Duke declared the Exhibition open. Then the cannon pealed out their thunders and the work of inspection begun to continue until October.

Portage City Seed Store.—W. Caswell has a full list of Imphee, Sorghum, and French Sugar Cane Seeds—genuine and just imported. Grass seeds and clover in variety; Vetches or Tares; Tobacco seed; Chicoory; Imported Ruta Baga and Turnip seed; Genuine Bi Sulphite of Lime. Seeds sent by mail, 1c. per oz.

Address, W. CASWELL, *Portage City, Wis.*

Affairs in London—the Markets and the Sentiment on the American Question.—LONDON, England, May 9, 1862.—Again we salute our readers from the world's great metropolis. In our last we gave some account of the grand opening of the Exhibition of the Industry of all Nations, and had intended in this to furnish the first of a series of articles on the Exhibition itself. The delay of exhibitors, and of superintendents of departments in getting articles all in place and ready for inspection, has modified our plan, however, and it is now more than probable that we shall leave for the continent to-morrow or Monday, returning when the Exhibition is more thoroughly ready for our careful and connected study.

During the past few days, our time has been divided between the Exhibition and the great city of London, which is in itself a world condensed.

THE MARKETS.

Yesterday we attended the Corn Exchange, which is located on Mark Lane, near the centre of the city proper. To the eye neither the building nor the displays of grain, &c., are very imposing; yet it is here that are made the sales and the purchases which go far towards determining the market rates, not only in the United Kingdom, but also in all foreign countries. Of course the prices here are determined by circumstances of amount produced in other countries, prospects for good or bad crops in the Kingdom and so on. We intend simply to say that the rates reported by the Corn Exchange are to a considerable extent the key note by which the tune of prices in foreign countries is determined. At this great Exchange we were fortunate enough to meet with a number of the leading factors and thus get at the prevailing opinion as to the future prices of some of the more important products; and in order that our readers who are directly and practically interested in this matter, may appreciate the reasons for that opinion, we furnish herewith a statement of facts which bear on the question.

THE PRESENT AND FUTURE OF THE WHEAT MARKET.—As to wheat, which is our chief article of export, there are two or three circumstances of a discouraging nature—we mean as compared with the high hopes we were led to entertain last autumn and winter.

On the affirmative side of the question of better prices may be placed the following facts:

1. The product of the British Kingdom is pretty well exhausted. But small quantities have been brought to market since December, but up to that time, since harvest, the supplies had been so large as to warrant the calculation, in view of the smallness of the yield, that only quite small stocks of the crops of 1861 is now held by producers or dealers.

2. It is evident, therefore, that a considerable quantity must be imported from foreign countries before the next crop is ready.

3. But the amount now known to be en its way from ports east of Gibraltar, is small, and the arrivals for May and June are likely to show a considerable falling off as compared with last year.

On the negative side of the question there are other circumstances which require consideration:

First, there are known to be large supplies at many of the American Lake ports waiting for better prices. This fact is at the present time exerting a depressing influence upon the market here and elsewhere.

Secondly, the prospect for a good British and Continental crop is now excellent. The weather, though rather unpromising early in the season, is now unexceptionable, and is rapidly bringing forward vegetation of every kind.

Thirdly, it is believed that the Baltic ports, now just fairly opened to navigation, will be able to send forward considerable quantities.

In view of all these and other considerations, *pro and con*, we are reluctantly brought to the conclusion that the farmers of America may have to sell at rates somewhat less than we felt inclined to promise them last winter. Still we hope they will not be suddenly disheartened and sell at a sacrifice. It is by no means *certain*, yet, that the crop now growing will be a good one, and if it should, prices can scarcely run lower than at present in mid-summer. Of the prospects for a good crop at home, we are not so well apprized. This should, of course, be taken into the account, as also the probable course and final upshot of the war.

ENGLISH POLITICAL CONSISTENCY.

The course of the *London Times* on the "American Question" gave early origin to a prevalent opinion in the United States, that the English Government, and the English People, were in sympathy with the Rebellion and would be glad to see a settlement of the war upon the basis of a permanent separation of the Northern and Southern States. This evident wish of the *Times* had been so often denounced, however, by American citizens, English born, that we came at last to believe that the "Thunderer" was really the exponent of individual rather than either government or popular views and feelings. We regret that this opinion formed in all charitableness while in America is fast being subverted by what we have seen and heard since our arrival in this country. As we have not yet traveled in the country we cannot, of course, speak with assurance of the sentiment there; but of the officials and people of London, who, to all intents and uses, are the people and government of the whole realm, we feel but little hesitation in declaring them very certainly in the interests of the South. The reasons for leaning in that direction are various, but the leaning is so apparent that no American, we think, can mistake it. They do not see how a reunion is to be effected, and are quite positive in their opinion that it cannot be; indeed they seem to see important reasons why it should not be. The country, when united, is already too large, and is only falling apart because of its magnitude and inevitable lack of cohesion. This is the view entertained by one class. Another class affect to have been very kindly disposed towards the Government of the United States so long as they were wild enough to

believe that the Administration intended the destruction of slavery, but now that there is no nigger in the issue, and the war is simply for the preservation of the Union, they have no interest in the contest, except that it terminate at once and the cotton supplies are again restored. A third class declare neither their interest in the restoration of the Union or the abolition of slavery—simply a desire that this "great, growing, grasping, unscrupulous nation of Yankees" should be broken ere it arrives at the maturity of its strength and becomes the first great Power among the nations of the earth. While a fourth class thoroughly hate the Republican Idea and are ready to do anything to overturn and lay it low for a warning to the other lesser republics now struggling in the light of our example against the Aristocratic Idea which still holds sway in the old world. The number of these is immense, in aggregate, as may be judged from the fact that although we have talked with hundreds of persons representing all classes of society, we have found but two individuals who were clearly on the side of the Government of the United States and anxious that it should triumph over its enemies. It is possible that future observations may result in a better opinion of the intelligence, consistency and christianity of Old England, but until further evidence, we set her down as the secret enemy of the American Republic—preferring even that a new government shall be set up with slavery as its chief and only corner stone, rather than see that Republic continue the prosperous and glorious integer it has been.

It is our opinion, therefore, that the Government and the Free States of America must carry on the war, not only without sympathy from any of the great Powers of Europe—at least without the sympathy of the two nearest and most dangerous Powers, England and France,—but that there may be a safe reckoning upon the real jealousy of, and secret machinations of one or both of these great Powers against the cause of the Republic. Whether M. Mercier is really in Richmond for the purpose of negotiating an alliance and preparing for the interference of the French Government or not, nothing is surer, in our opinion, than that such an inference is hoped for and in process of being planned by leading politicians in this country.

An Example worthy of Imitation.—During a recent trip through the town of Oregon, in this county, we met and conversed with Nathaniel Ames, the only revolutionary patriot, we believe, in this State. He is now in his 102d year, and seems to possess a remarkable degree of mental and physical vigor for a man of his years. He handed us his dollar for the current volume of the FARMER, and with it, his good wishes for our success.

Mr. Ames wintered at Valley Forge in that dark hour of American Independence; was present at the execution of Major Andre, and was familiar with the countenances of Washington, Lafayette, Steuben, Jefferson, and other heroes of the revolution.

He is at present snugly quartered with a grandson of his, and every possible care is taken to render the evening of his days comfortable and pleasant.

CORRESPONDENCE.

The Bee Moth.—One of the greatest difficulties that every bee-keeper has to contend with, is the ravages caused by the Bee Moth. A very good way to destroy the moth or miller which produces the worms that prove so destructive to bees, is to take a gallon crock or milk pan, fill it one-third full of water sweetened with molasses and set it near your bee-hives every evening a little after sun down—in the morning kill all the millers that may be found therein: remove it during the day and replace it in the evening. After a few days the sweetened water will become sour and must be renewed. Continue this until the moth disappears in the fall. On very warm still evenings I take a light and go out and kill a great many around the hives, observing not to get near the front or entrance to the hive. To kill the worms, raise the hive gently in the morning or at evening, and kill all the worms that may be found. Do this *at least* three times a week until they disappear in the fall.

J. W. SHARP.

The Langstroth Hive.—I noticed in the May No. of the FARMER an inquiry in relation to the Langstroth Bee Hive. I have ten stocks of bees in the Langstroth hive. Any person wishing to see the Langstroth hive in *practical* operation, can do so by calling on me. I have also a stock of Italian Bees which are something of a curiosity in this country. I think they are superior to the common bee.

I like the Langstroth Hive well. J. W. SHARP.

DOOR CREEK, Dane Co., Wis., May 23, 1862.

NOTICES OF NEW ADVERTISEMENTS.

Grape Culture and Wine Making.—This is the title of a work just received from Saxton, of New York. Our limits this week prevent our giving a lengthy notice of its contents. We prefer to do so after taking a little leisure in its examination—having had some experience with vines in this latitude, we are disposed to scrutinize the recommendations of authors hailing from more favored districts of country. What might do for the natural fruit region of Rochester, will not always prove suitable for this latitude. We are a strong believer in the success of grape culture in Wisconsin, and are always ready to receive and disseminate any thing which will forward that success. See advertisement in our paper this month.

The Kirby Reaper.—In our advertising pages will be found Mr. Powers' advertisement of this celebrated reaper. Without being able to speak from personal inspection of its operations in the field, we know the reputation it enjoys, as a first class machine sufficiently to base a recommendation to our farming friends, to examine it with

a view to purchase. We may have an opportunity to see its doings in the grain field this summer, when we shall speak further of its qualities.

Wheeler & Wilson's Sewing Machines.—This sterling machine is advertised in our pages this month. Those who have it in use speak highly of its performances.—Those who desire to examine it can do so by calling on the Agents in this city.

STATEMENT

OF THE

Madison Mutual Insurance Company,

FOR THE YEAR ENDING

JANUARY 1st, 1862.

Made to the Governor of the State of Wisconsin, as required by the provisions of chapter 303, of the General Laws of 1858.

Total amount of accumulations,.....		$216,865 76
ASSETS:		
Premium notes of policy holders $180,124 63		
Cash on hand, and due from policy holders for cash premiums,.....	35,408 66	
Am't secured by mortgage and judgment,.....	332 47	
Office furniture and fixtures,...	1,000 00	$216,865 76
Whole number of policies issued,.....		14,357
Am't of outstanding risks thereon,.....		$10,320,789 00
Reported losses awaiting further proof,.....		3,709 80
Losses recently reported,.....		3,433 89
Whole number of policies issued in 1861...		5,778
Amount of outstanding risks thereon,.....		$5,315,173 00
Amount of premium notes thereon,.....		93,944 06
Amount of cash premiums thereon,.....		48,377 36
Total amount of losses reported during the year,.....		15,801 13
Total am't of losses paid during the year,		6,881 16
Amount settled by drafts and awaiting the call of the insured,.....		1,568 85
Amount of commissions paid to Agents,....		7,460 84
Am't paid for Advertising,.....	$1,625 20	
Amount paid for printing,.....	811 00	
Amount paid for postage,.....	366 22	
Amount paid for office rent,....	200 00	3,002 42
Expenses paid, including all compensation of officers and directors—stationery, extra clerk hire, fuel, lights, and all other incidental expenses,.....		6,069 56

STATE OF WISCONSIN, }
DANE COUNTY, } ss.

We, the undersigned, being the President and a majority of the Directors of the "Madison Mutual Insurance Company," do solemnly swear, and each for himself saith, that the foregoing is a true and correct statement of the affairs of said company in the particulars therein named, as appears by the books of the company, according to the best of our knowledge and belief.

D. J. POWERS, President.
JOHN W. BOYD,
SAMUEL D. HASTINGS,
B. F. HOPKINS,
TIMOTHY BROWN,
ALBERT WOOD,
G. F. HASTINGS,
H. H. GILES,
SAM'L R. McCLELLAN,
G. R. MONTAGUE,
ORRIN GUERNSEY,
LUTHER BASFORD,
DAVID ATWOOD,
D. WORTHINGTON.

Subscribed and sworn before me this sixth day of January, A. D. 1862. V. W. ROTH, Notary Public, Dane County.

Comparative Statement of the business of the Company for the years 1859, 1860 *and* 1861:

	1859.		1860.		1861.	
Total amount of accumulations,...						$216,865 76
ASSETS:						
Premium notes of policy holders,...		$35,462 46		$92,487 27		$180,124 63
Cash on hand, and due from policy holders for cash premiums,.....		2,986 02		16,509 74		35,408 66
Amount secured by mortgage and judgment,.....		332 47		332 47		332 47
Office furniture and fixtures,...		300 00		1,000 00		1,000 00
Whole number of policies issued,		39,080 95		110,389 49		14,357
Am't of outstanding risks thereon,		4,807		8,579		10,320,789 00
Total am't of losses paid and settled,		$2,409,950 49		$5,451,115 49		8,450 01
Losses reported and awaiting further proof,.....		2,409 45		6,908 31		7,351 12
Whole number of policies during the year,.....		1,187		499 53		5,778
Am't of outstanding risks thereon,		$1,140,076 00		3,772		$5,315,173 00
Am't of premium notes thereon,...		17,109 82		$3,916,115 49		93,944 06
Am't of cash premiums thereon,...		11,059 04		68,789 45		48,377 36
Am't of commissions paid to Agents,		3,317 70		38,761 88		7,460 84
Am't of expenses paid, including all compensation of officers, printing, advertising, postage, and all other incidental expenses,.....		3,317 51		10,339 18		9,071 89

The foregoing statement of the business of this Company for the past year gives a gratifying evidence of its high standing in the public estimation and of the success of its rules and principles of action.

Although its business for the preceding year (1860) was much larger than that of any previous year, and notwithstanding the general depression among farmers the past season, arising from light crops and low prices, the above figures show an increase of nearly *seventy per cent.* in the number of policies issued, and of *over seventy per cent.* in the amount of cash premiums for the past year.

We invite a careful examination of this report. Its figures make a stronger argument than any form of words, and prove a rise and standing in popular favor unparalleled in the history of the Northwest.

DIRECTORS AND OFFICERS FOR THE YEAR 1862:

DIRECTORS.

J. W. BOYD, Walworth County.
B. F. HOPKINS, Dane County.
D. WORTHINGTON, Waukesha County.
S. D. HASTINGS, Trempeleau County.
G. F. HASTINGS, Dane County.
DAVID ATWOOD, Dane County.
G. R. MONTAGUE, La Crosse County.
S. R. McCLELLAN, Kenosha County.

THE WISCONSIN FARMER.

J. W. HOYT, : : : : : : : : : : : EDITOR.

VOL. XIV. MADISON, JULY 1, 1862. No. 7.

Work for the Month.

Some farmers usually finish their hoeing the first week in this month, but we think it pays well to keep the horse and hoe moving some weeks later. Should the corn get too large for plowing, go through and cut out the weeds with the hoe, or a large crop of these pests of the farm will cover the ground by fall and mature their seeds. On new land, of course, the case is quite different, and much less hoeing will suffice.

Root crops of all kinds need one or two hoeings, at least, in July. If they were not properly thinned out in June, no time should be lost in attending to it, or very small roots will be the result. The ground should be well cultivated, and for most kinds, loosened as much as possible.

Ruta Bagas may yet be sown on old land, but it is better to sow them in rows, so as to cultivate with the horse-hoe.

Flat turnips should be sown after the twentieth of July. The land should be clean and well prepared. If possible, sow just before a rain, and go over the ground with a brush or fine harrow.

Haying should be attended to before the harvest comes on, for busy times will be the order of the day when the large breadth of wheat is to be taken care of, as help is likely to be a little scarce this season. Everybody should have a reaper, or secure the use of one, if they have over ten acres to cut.

The garden and orchard should not be overlooked in the hurry of other business. Weeds and insects must receive attention. The caterpillars, borers, slugs, &c., will be at work. Examine the trees and hunt them out.

Sow buckwheat the early part of this month. All the land vacated by the failure of other crops should be used for this purpose. If you have a poorish piece of soil, give it to buckwheat. When sown on very rich soil, it runs to straw too much. About two pecks of seed per acre is enough, though the proper quantity of seed depends much upon the soil—poor soil requiring the most seed.

See that the wheat and other grains are stacked well. Avoid as much as possible the getting of it wet by cutting too much at once. There is often a tendency, and almost necessity, of laying prostrate whole fields of wheat at once. The matter should be so arranged, by those using the reaper, that hands enough should accompany it to bind and stook certainly before rain, and, if possible, to stack or garner it in barns. Take great pains in stacking. More wheat is lost by carelessness on this point, than most any other.

Every farmer who has any tame grass, should save his own seed—mind this hint, and you will know the quality of your seed, and not be imposed upon by buying foul seed raised to sell. By doing this, you will keep your farms free from many foul weeds and grasses. When haying, leave a patch of timothy for seed; when ripe, cradle, bind up, and shock. With clover, the second crop should be saved for seed, and not the first.

Do not allow your pastures to be fed too closely. If the roots of grass are unprotected from the scorching heat of summer, it will die out rapidly. A plot of early sown rye, sorghum or corn, to be cut and fed this and the next month, will aid in keeping both pastures and stock thriving.

"Treatment of Muck."

My attention was attracted by an article in the last number of the *Farmer* under the above caption, the sentiment of which purports to have emanated from the distinguished editor of the *American Agriculturist*.

It is recommended to use *muck* for "*bedding cattle*," claiming for it these characteristics of a "*good bed*," viz.: "*dryness*, *softness* and *cleanliness*"—another might have been added that would have been quite as popular, that is, that it is a good absorbent. More than ten years' experience in the use of muck, during which period I handled and experimented with, in different ways, thousands of loads, has satisfied me that muck does not, unless artificially prepared, possess but one of the properties claimed for it—that is "*softness*."

It is impracticable to obtain it in a *dry* state, without drying it by artificial means. The economy of drying it for this purpose, I leave without comment. Next in order, its "*softness*"—it is soft enough. Lastly, its "*cleanliness*." If wet muck is *cleanly* in the opinion of the writer of the article alluded to, I must be allowed to differ with him. I know of no substance that has been recommended for bedding for cattle that is more *filthy*. I never used it in my stables, but I have hauled large quantities into my barn-yard, and spread it under the cattle sheds, with which my experience was very unsatisfactory, so much so, that I abandoned this mode of treating muck and resorted to others, one after another, carefully noting the result, until I finally decided that those which I shall hereafter describe are by far the most economical.

If any portion of muck should, by very favorable circumstances, become dry, it will be so light that it will, when stirred, float about the stable and feeding passages, and finally be deposited in the form of a black dust on the hay and in the mangers, whence it will be removed generally by the animals eating it with their food. This will certainly not be called *cleanly*. If it is already moist when applied as bedding, and is used in the quantity recommended, viz.: "a half cord to the animal" at a time, (which would cover the stall floor to the depth of at least two feet, and above the height of cattle mangers ordinarily, into which it will fall and thus get mixed with the food,) it would produce a state of affairs unprecedented in stable economy. It is also recommended that this *soft* mattress, of most liberal dimensions, (especially in its thickness,) should be changed or renewed semi-monthly.

Allowing the urinary excretions to be but three gallons for 24 hours, for each animal, when continued for 15 days, the quantity of moisture added will safely provide for any lack of "*softness*," and what might have been called a "*bed*" two weeks previous, has now become a "*wallow*" or mire. It is claimed that there is advantage in the heat of the animal imparted to the muck on which it lies. If this be true, I confess I cannot see how. I am aware, however, that when a bed of the character of that above described has been used for a week or more, the animals will, when they can endure standing no longer, lie down for a while in the mire and by so doing their warmth will throw off rapidly the putrid odors from the putrescent mass in which they lie, thus more thoroughly charging the atmosphere with noxious qualities, in which it was probably not previously deficient. The hair of the animal will also be thoroughly saturated with the filth in which he has been compelled to lie, which will gradually evaporate and thus perpetuate the supply of impure vapor to the atmosphere of the stable, as long and as effectually as could well be done by any other process. In case this new mode of bedding stables were adopted in dairy stables, what would be the condition of the cows? Worse, if possible, than that described as existing in the slop-feeding stables of New York and Brooklyn.

The mode of managing *muck* that I shall recommend, will be found less objectionable and more profitable than that to which I have alluded. Haul it out of the pit at the season of the year when it contains the least amount of water. Deposit it near the pit on a dry knoll, if practicable; if not, on the slope of a hill, ploughing a furrow near it on the upper side of it, in such direction as will prevent the water from adjacent higher ground running under it to be absorbed by it. Make the bed of it not more than two feet in depth and level on the top—then top-dress it with fresh burned lime in the proportion of one of lime to fifteen of the muck, and allow the bed to lie with the lime on it six or eight months; then turn it, mixing the lime thoroughly through the muck, and trim up the heap in a shape that will shed off the rain, and let it lie thus for two or three months, when it will be in a fit state for use as a top-dressing. If applied on wheat land at seeding time as a top-dressing, or on grass land in autumn at the rate of fifteen cords per acre, it will be found a remunerative application.

Another mode which I have found very excellent when the arrangement of the stable is such that it is practicable, is to collect the urine from the stable into a covered tank, having deposited the muck as described in the use of lime, apply five gallons of the undiluted urine to each cord of the muck and manipulate as in the use of of the lime. An addition of a half bushel of common salt to the cord of muck, if it has been taken from fresh water deposit, will also be found beneficial.

My experience has satisfied me that it is too expensive to be profitable to haul the muck to the stable yard and mix it with the yard manure, and haul all again to the fields; besides,

it is a practice so filthy as to be loathsome to a humane, tidy farmer, to compel his farm stock to wade through deep beds of muck and manure all winter, or when they are turned into the yard to get a snuff of pure air.

This mode of hauling to the yard—taking into the account the great amount of rain water that must be unavoidably carted both with the muck to the yard and with the compost from the yard—will be found, if carefully investigated, a very expensive business, such as none would attempt when the cost is carefully taken into the account.—J. WILKINSON, in *American Farmer.*

Flax and its Products.

The progress of the machinery for cottonizing flax, anxiously inquired about by many of our readers, will soon be reported on by us in a manner that will probably show conclusively that the value of the proposed improvement has not been over-rated.

Distinguished gentlemen connected with the enterprise assure us that the thing is all that the inventor claimed for it, and that the public will in a few weeks have an opportunity of witnessing the regular operation of some of the new flax-dressing machines in or near this city, where visitors from all parts of the country can satisfy their curiosity by personal inspection.

We state this now, that farmers and others who are making calculations connected with the probabilities in this new business may understand that there is no failure (as we are assured) in any of the arrangements, and that they need not abandon their plans for raising flax to meet the demands of the new plan for preparing the article for market.

Believing as we do about the project, we congratulate farmers and others in the West, and all through the Northern States, on the encouraging prospects for a new branch of business that will beneficially affect the agricultural, manufacturing, and other interests of the country.—*N. Y. World.*

VALUE OF HAY, COMPARED WITH OTHER MILK-PRODUCING SUBSTANCES.—Several French and German chemists estimate the relative value of several kinds of food for milch cows, according to the following table:

That 100 pounds of good hay are worth 200 pounds of potatoes; 460 pounds of beet root without the leaves; 250 pounds of carrots; 80 pounds of clover, Spanish trefoil, or vetches; 50 pounds of oil-cake or colza; 200 pounds of pea-straw and vetches; 300 pounds of barley or oat straw; 400 pounds of rye or wheat straw; 25 pounds of peas, beans, or vetch-seed; 50 pounds of oats; and 500 pounds of green trefoil, Spanish trefoil, or vetches.

Agriculture in 1900.

MAXWELL'S *Sights, Smiles and Sketches* gives the amusing sketch of Agriculture in Devonshire, England, at the present day, and what it *may* be in 1900:

A.D. 1861.

Come, wife, 'tis time for we to rise,
The clock is striking five:
Be quick and get the tatees fried;
Now do, lass, look alive.
I've got to put my barley in,
And now the first of May's come;
I don't know how us shall get on,
If many rainy days come.
I've got to cart out all my dung
And lime to till the tatees;
The land's as wet as wet can be,
How bothered my poor pate is!
There's Brisk and Boxer cruel galled,
And Tidy Mare is gripy;
And oats are down, and wheat's a'valled,
And Roger's always swipy;
And all the sheep have got the scab,
And wool's a going down;
And I've to draw my produce in,
Vul vourteen miles to town.
And Lady-day's a'come and gone,
And I've not paid my rent yet.
And Bill, and Jan, and little Joe
Ha' ne'er to school been sent yet.
Us can't get on if times don't mend—
'Tis raly quite alarming:
I only wish my lease was out,
I'm sure I'd give up farming.

A.D. 1900.

Matilda! order chocolate;
It's nearly ten o'clock;
And getting up at half-past eight
Is really quite a shock.
I worked so hard till nine last night,
To prove that last analysis,
That, should my brain be further tried,
I really fear paralysis.
Well, I'll just take a quiet ride:
James, bring my locomotive—
That half-horse power, with trotting spring;
Of health 'twill be promotive.
And, James, do fetch a gallon of
Concentrated Thames water;
I'll just top-dress my cucumbers—
Five acres and a quarter.
Well, here I'm back; I've been all round;
The farm is looking splendid.
What fools they were, some years ago,
To work as hard as men did!
I've heard my gransire say, his dad
Met with some dreadful losses:
No wonder, when they used to work
With those great horrid hosses.
And, James, just touch the telegraph,
And bid my engineer
Turn out six dozen ploughs next week,
To get the breaches clear;
And tell Professor Faraday,
And my sub-chemist, Jones,
To forward, by next Monday's post,
Their last extract of bones.
'Tis time I got my turnips in;
I should not like to mess it;
And as I've only one square mile,
There'll be enough to dress it.
And, James, do turn the battery on,
The wheat is just in flower,
And give it one galvanic shock,
It wants a gentle shower.
And syringe all the cabbage plants,
With essence of guano;
And ask Miss Jane to milk the cows
With the new "vaccine piano."
And, James, fetch down my last balloon,
With speed retarding crupper;
I'm going to Barnet fair to-day,
And shan't be back till supper.

How to Destroy the Wheat Midge, Fly and Weevil.

A few days since, while conversing with one of my friends on the subject of the common wheat weevil (curculio granarus,) he stated that he had a receipt for destroying the same. Having an eye to laying the same before the readers of the *Telegraph*, I requested a copy, and you can imagine my disappointment when I received the following, which I give as I received it:

"The most effectual process to prevent *smut* in wheat, *the fly*, *weevil and midge*, is, first, to wash the wheat clean, by stirring and skimming it in several waters, only pouring water from the spring or well, and stirring the wheat until the water runs off clean. Then take two quarts of *caustic lime* to a bushel of wheat, and stir it into the wet wheat in the tub until it is thoroughly mixed and let it remain in this condition for *twelve* hours. It now becomes thoroughly saturated with the caustic lye—*all the eggs are killed*, be they *weevil*, *midge or fly*."

To say the least, this is a strong receipt.—Have any of the readers of the *Telegraph* tried it? Will the wheat grow after twelve hours' soaking in this "caustic lye?"

As far as smut or rust is concerned it might, (granting the wheat to grow,) be of some use; it may prevent the former, but as the latter disease depends more on the state of the air (with regard to moisture) than anything else, I do not think it will effect much. Will it in any way affect the fly? Some examinations into the habits of this pest will answer this question. The fly (generally called the Hessian fly,) lays its eggs on the leaves of the wheat in the fall and spring. The eggs are nicely placed upon the upper surface of the leaves of the wheat, and vary in number from fifteen to thirty on a place. They are placed between the ridges of the leaf, and are hatched in from two to four weeks. As soon as hatched the young insect crawls down the stem, between it and the base of the leaf, until it reaches a joint. Here it attacks the stalk, and lives on the juices which would otherwise fill the grain.—Those hatched in the spring may be found in the upper joints, and thereby appropriating the juices they prevent the proper deposit of silica. The stems for the want of this material are unable to bear the weight of the grain, and it "goes down." I have seen fields and parts of fields down in this way as flat as if a roller had passed over them. Sometimes it gives way at one joint and sometimes at another, thus if it gives way near the ear, it is the spring brood; but if near the but, the injury is caused by the fall brood.

I find among my papers the following plan for "heading" the Hessian fly: "About the middle of August sow a strip of wheat adjoining where you intend to put your crop—say one or two acres. About the middle of September sow your field. When this comes up and shows cleverly, plow under the first sown; *turn it under well*. Your fly is headed, and the crop is safe."

I have never been troubled with the fly, and know not whether this receipt will do or not.

The midge, although in some respects similar, is different in its habits from the fly. The perfect insect lays its eggs in the grain as soon as it enters its milky state; these eggs soon become larvæ, and live upon the milk of the young grain; this state of the larvæ does not last long, the insect falls to the ground and works into the ground to the depth of two or three inches; here it passes into its chrysalis state and remains till spring, when it comes forth a perfect insect, ready to lay eggs for another brood, of destroyers.

In England where this insect is more destructive, various experiments have been made for the purpose of ridding the farmers of its depredations. An experiment has been tried there which gives a *theoretical*, if not a practical remedy. A portion of a wheat field, from which the remains of a crop had been taken, was covered with a large box or frame covered with gauze. Another portion of the same field was spaded to the depth of six or eight inches, the soil being *carefully* inverted; this portion was covered in the same way as the first. The following spring the box on the unbroken stubble was found to contain large quantities of the midge in the fly state, while the box over the spaded portion did not contain any at all. In the course of one month a few insects appeared in the box over the spaded ground, but the greater portion (compared with the other box) were unable to find their way above ground, and those which did reach the surface, were too late to do any mischief to the crop.

So much for the practical, now for the theoretical, or as it is called, the book-farming portion.

Thus, it would seem that if a field which was injured by these insects, was plowed up *carefully* and *deep*, and re-seeded with wheat, the insects which did reach the surface would do so too late to do any harm. For one farmer to pursue this plan would not have much effect, but the English farmers propose that the neighborhood so infected, should all, by a mutual agreement, pursue the same course and thereby rid themselves of this pest.

I have thus disposed of the fly and midge; now, last though not least, let us consider the weevil. This, as many know to their cost, is a small red or black beetle, which deposits its eggs *on* the grain in the mow or after it is stored in the granary. The young insect, as soon as hatched, burrows in its grain, and devours the inside, often leaving nothing but the hull; the injury is often not discovered until it is shown by the loss in weight.

Now, I have shown, (according to my ideas, which I am *not* certain are correct,) that the fly does its mischief *after* the wheat is up and

does not exist in the seed; that the midge does its mischief *after the wheat is in head*, and does not exist in the seed; and last, that the weevil is neither in the seed or field, for a grain of wheat which has been hollowed out by a weevil, will not grow.

Then, how can caustic ley (or lie) destroy in the seed the eggs which do not exist there? Perhaps my ideas of the fly, midge and weevil may be wrong, for my ideas have only been obtained from the experience of others, not having had any of my own. If wrong, I shall be glad to be set right; and any one so doing will oblige your friend, SPIKE HARROW, in *Germantown Telegraph*.

English Agriculture.

England has been, and is at the present time, so situated from a crowded population as to be obliged to look upon her agricultural condition as of the greatest importance to her, individually and nationally. The yield of the ground measures her power, telling with foreknowledge that the increase of her population will be wholly measured by the productiveness of her soil. No wonder then she glances with anxious eye toward her agricultural condition as it is at present, and as the path seems for future prosperity.

This explains why certain courses of treatment are adopted by the British agriculturist. It is the object of the aristocracy to promote the thorough cultivation as conducive to their farmers and of the poorer classes for the gaining of a little of the "needy" for their expenses. All tend to call for the thorough cultivation of the soil. If under these circumstances the farmer of Great Britain did not adopt and carry into a more thorough system of agriculture, it would be something of a nature that has thus far shown itself but rarely in agricultural history.

These causes have worked about a system of agriculture wherein everything is used to increase the productiveness of the soil. All things tend toward improvement—that is to say, producing of the largest results from the smallest means—a large crop from a small piece of land, and at the least cost. Although we may carry this principle into England, then into America, we will find the practices of the two countries at variance. In England we have cheap labor; here we have dear. The land in one country is of great value when compared with the other. This results from the density of the population. Density of population and no place of egress causes a cheapness of labor not found under other circumstances.

The difficulty of obtaining farms in England, unless having a large capital at hand, presents another good reason for the cheapness of labor. All the farms are owned by the aristocracy or gentry, and let to the farmer. A large capital is necessary to command a good farm. Thus, although even if we admit as to the profits, we find a capital necessary which is not at all suited to the poor man; while, on the other hand, we have cheap land and dear labor. Here a poor man can manage to get a farm, and, if of the right stamp, soon be independent. Although we of this country may carry out the English farmer's principle of getting the *largest crops from the land at the least cost*, our system would differ in nearly every respect.

Draining, deep plowing, and the feeding of stock, are attended to in a different way than with us. We have with us cases of as good farming as Great Britain can present. I do not mean as deep draining, plowing, or as heavy manuring, for these are merely the systems; but I look at the principle. With us it would not pay to adopt the same course as we find there, while with them the case is reversed—it would not pay them to adopt our system. Good agriculture does not necessarily call for deep four foot draining, twelve inches plowing, and raising of turnips. *It calls for the use of those means around which you are situated.* If such and such a plan *will pay*, why not accept of it and reap the benefit; and if you do the best with these circumstances, you can receive the laurel as to the equality with any farmer, however his system may be in opposition to yours. He may even get better crops, and fatten better stock. Does it pay? The answer to this question decides the superiority. Of course I speak of *permanent* paying farms.

The farmers of Great Britain seek for soil beneath the surface. It pays with us after going down six inches; further down does not, in certain districts, pay. This, however, is decided by *labor* and the implements you use, their capability of going deep at a small cost comparatively.

In one locality labor is cheap and land dear. In this case down we go into the subsoil.—When the reverse, labor dear and land cheap, we get *surface* land. Depth increases the crop, but after we get a certain depth it does not in proper proportion to the labor bestowed. If we go six inches, all things else favorable, we get a good crop. Now six inches more would give us a better crop, Does the increase warrant the increased expense? Price of labor decides the question. If land is cheap, put the other six inches upon another field, and the crop taken off will far exceed the surplus got off of the other field by the twelve inches of plowing. The question is, will the price of land, &c., allow a better profit than from the twelve inch lot. If so, why it is the better farming. If not, it is bad management to take such a course of procedure.

All these questions are subject to local considerations. That which is preferable under circumstances which present themselves in England, are of an entirely different nature here, and require different treatment. But

neither practice destroys the principle of superiority. All then that is needed to claim equality with the agriculturist of Great Britain, is to know whether we do the best with the circumstances under which we are placed! I do not pretend to answer this question, but let each one answer the question as applicable to his situation and mode of doing things. It is plain that draining, deep plowing, plenty of manure, and good "blood" stock generally pay where cities are numerous and of any size. Good *stock* pays at all times when feeding of stock becomes necessary. In this particular we say nothing of the "breed," but mean no animal that will not lay on flesh as the least possible cost. Some breeds are more adapted to do this than others. Individual cases are found in all breeds.

Draining, deep plowing and plenty of manure are more subject to *local* considerations. They produce corn. Will it pay by the increased yield? In nearly all cases it will. The farmers of Great Britain answer in the affirmative, also some of our Atlantic states. Let all be careful *how* they answer, by their acts, this important question—important to themselves as relative to their pocket, and important to their country.

We use, generally, more machinery than our friends over the water. This arises from the high price of labor; and I think plow as deep in some of our Atlantic States. Drainage, we are nowhere; but hope, as time rolls round, to find this introduced here more largely and thoroughly. Do not find fault. They *must* do it—why not? Labor cheap, land dear. When land approaches here near the price of land there, our farms will have the most thorough draining. This I say as being a characteristic of the Yankee people—to make a thing pay? In all other branches of trade America has disputed the palm with Great Britain, and when the same circumstances under which she is now placed, fall to our lot, we will successfully strike for the Agricultural laurel as to *practice*. Our *principle* of making our farms *pay*, we work up tolerable well for a new country, although our practices, of necessity, differ greatly from the farmers of Great Britain.—*Country Gentleman.*

"Only a Farmer."

How often do we hear parents give an excuse equivalent to the above, for not giving their children a good education. "He is going to make nothing but a *common* farmer," and therefore (good reason) he does not need a good education. If practical farming does not afford ample scope for a well-educated mind, I know not where it will be found. If no education will make him a *common* farmer, then I say give him a good education and thereby make him an *uncommon* farmer. Believe me, farmers, the time is coming, yes, and now is, when a good education is absolutely necessary to make a *good* farmer. By a good education I do not mean that to make a good farmer one must needs go through college, but should have a better education than can commonly be obtained in our county common schools.

He should not only know that to produce a good crop he must apply some manure, but should also understand why it should be applied and of what kind. He must not only know that certain crops grow, but should know why they grow and what supports this growth; and from this know what he must add to the soil to produce a certain kind of grain or crop.

The time is coming and in many sections has already come, when farmers will not be content to plod on in the same track as their fathers, grandfathers and great grandfathers have trodden, but will devise new plans, new rotation, new machines for all the various operations of farm labor. The education of our farmers must keep pace with the improvement of their instruments, or it will be useless for a farmer to expend his income in the purchase of machines which he does not understand.

The operations of farming are more or less monotonous, and do not seem to require much exercise of the mind, but is this any reason why his mind should be idle?

How many practical farmers can you point to who are atheists? But few, I think—and why? Because, of all the employments of men, that of the practical, *well-educated* farmer brings into closest contact with the many wonders of the All-Creating Hand. The uneducated farmer plants his grain, and as ordained by Providence, it grows, but he knows not why it grows. To the well-educated farmer this is different, he plants his grain and knowing why it must be buried under ground, he knows just how deep it should be covered; in due season it grows, but he knows why and wherefore it does so. He knows that each crop removes certain substances from the soil and deposits others, and hence he is governed by this knowledge in the rotation of his crops and the application of his manures and stimulants.

It is a lamentable fact that as a general rule the farmers near the Atlantic coast are decreasing in the quantity of their crops, and this decrease must continue until the force of science is brought to bear upon practical agriculture. I know that on many farms the average crops are on the increase, but examine into such cases and you will find that scientific agriculture is being brought to bear upon the soil. Let us take England as an example. She has no West to run to, but her population is constantly increasing, and if we examine the agricultural statistics we will find that the increase in the yield of the different crops has kept pace with that of the population.

Farmers, give your children a good, solid education—it is all which you can give them which may not be taken away; it matters not

if their lot be cast in the far West or in the East near their native homes, their farming and their crops will be none the worse of it. Too many of our farmers complain that their children dislike farming and won't stay on the farm—in too many cases the fault is in yourselves, they see in farming nothing but a dull plodding life and are taught to suppose that they must follow a certain beaten path, and if they leave this path, it will only be going so far towards ruin. They are not furnished with the means of enabling their minds to keep pace with the growth of their bodies, they have no books and no papers to fill the void. It is not necessary that a child or youth should go to school all his youthful days in order to become an educated farmer, but he must be furnished with the means of expanding his mind. These means may be obtained from books, periodicals or papers.

Some will say they "can't afford it," but why do you work so hard all your life. Is it not to be able to leave your children the means to enjoy life, and in what way can you better enable them to enjoy life than by giving them a good education? Believe me, you can afford it if you will, and it is your duty to afford it. And it does not require the gift of prophecy to say that an uneducated farmer will stand but a poor chance in the next generation. And last but not *least*, by giving them a good education you will enable them to increase the knowledge of others through the columns of the *Telegraph* or other papers, and thereby oblige the editor and your friend AGRICOLA, in *Germantown Telegraph*.

Cutting Grasses and Curing Them.

A contributor, in the Feb. number of the *Ohio Valley Farmer*, in treating of grasses, has, I think, committed an error in regard to the proper time for cutting timothy. He says "The stem and leaves continue increasing in fertility after the flowering season. Hence it combines the nutrition of the seeds, which are numerous, with the undiminished value of the stem and leaves." Is this so? Or is it a theory unsustained by facts? Let us consider it. What is the object of producing hay? Is it to obtain an article of subsistence for domestic animals, and to obtain the largest amount practicable from a given quantity of ground? The valuable product of the grass field is different from that of plants when the seed or grain is the chief object. The grasses should be cut at such a time as the stalk itself will afford the greatest amount of nutrition for the animal. This point is when the plant is in its greatest perfection, as a plant, regardless of the seed, inasmuch as that, and not the seed, is sought for the animals' food. In timothy this point is before the grass is in full flower, and before it casts them.

If your correspondent will take a quantity of ground and cut and cure the grass just before the flower drops, and pursue the same course with an equal quantity of ground adjoining, after the seeds are formed, he will find the weight of the earlier cut exceeds that of the late cut. And if he will analyze them he will also find there is a larger amount of saccharine and other nutritious matter in it. I presume I need not tell any farmer that cattle will greatly prefer the early cut.

The same will hold good in regard to clover, and all other grasses, when the plant itself is the object sought for nutriment. So soon as the seeds begin to form, the stalk begins to become dry and woody, until finally, when the seed has come to perfection, the stalk has become almost worthless for food. The natural effort of the plant to perfect its seed, consumes the saccharine and all other valuable juices, and in its effort to accomplish this and prepare for renewed life, robs the parent stalk of all that it is valuable for except manure.

In this connection I will say a few words in regard to the proper mode of curing grasses. Many farmers do this in a careless, wasteful manner; and seem to think if, at last, it becomes sufficiently dry not to rot when put into the barn or stack, all that is requisite is accomplished. I pursue a different course. I never have more cut down than can be promptly and properly attended to with the force I have on hand. Grass should be cured as speedily as is practicable after being cut, and with as little exposure as possible to either rain or dew. I am satisfied it will pay to put it in cocks at night, even if the weather is good, to protect it from the effect of dews; besides this process greatly helps the drying. It should be opened the next morning as soon as the dew is off, and unless the grass is very heavy two days of good sun will cure timothy and other small stock grasses sufficiently for stacking or putting in the barn. Clover may be put in small cocks, after the first day's sun, and left there to cure; but if the weather proves unfavorable, a cap of finer hay should be placed on top to protect it, as the stalks are so large and stubborn the rain will otherwise run through and greatly injure it.

Hay cured in this manner will be much more valuable for feed, than when long exposed to the action of the dews and sun; and if designed for market, will bring a largely increased price.

I wish to say one word about orchard grass. I believe it may be cultivated to advantage on large farms, but care must be taken to cut it as soon as it comes into flower. If suffered to get ripe it becomes so hard and woody it is little better than sticks. It is an early grass, and consequently does pretty well to sow with clover, as it becomes fit to cut about the same time. But I warn those having nice lawns not to introduce it on their places, as it will spread over their grounds and greatly mar the

beautiful sward made by the blue grass. With me it has not done well as a pasture grass. It grows too much in tufts and does not make a good sward for stock to travel on —Y., in *Ohio Valley Farmer.*

Mixing Soils.

All past experience has proven that there is a certain species or state of soil which, other things being equal, will produce better crops than any other state. To bring his soil into this state is, or should be the object of the farmer, and thus he is deeply interested in ascertaining the most economical mode of doing it. Analysis has demonstrated that the basis of all soils consists of silica or sand and clay, and the marked difference in soils is caused by the different proportions of these substances: alumina or clay, and silica or sand. Soils may be divided into six kinds, viz: 1st, "pure clay," or 60 of silica and 40 of alumina. Such a soil when mixed with water will precipitate no sediment. Second, clay soil (brick clay,) consisting of 25 of alumina, and 75 of silica. Such a soil, when washed, will precipitate some 15 per cent. of sand. Third, clay loam, containing 80 of sand and 20 of alumina or clay, and will by washing precipitate some 25 per cent. of sand. Fourth, a loamy or common soil, consisting of silica 85 and alumina 15; this, other things being equal, constitutes the most productive soil. Fifth, a sandy loam, which precipitates some 90 per cent. of sand; and sixth, a sandy soil, containing not more than 5 per cent. of clay.

Here we have a standard, in the fourth kind, at which we should all aim. We know that some sandy soils, even with liberal manuring, will not produce good crops, because the soil is too loose; the same may be said of a stiff, clay soil, but for a different reason, for in this case the soil is so compact that the roots cannot force their way through.

Here we have the two extremes, and know that a medium is best; the course of which is plain to even a "common farmer."

I do not wish to be understood as advocating the hauling of clay or sand from a considerable distance, but wish my remarks to apply to clayey or sandy spots in the same field, or adjoining fields, for they are never far apart. On almost every farm there are sandy spots in the fields which do not produce as good crops as the remainder of the field. Such things are best when done on a small scale and during leisure time. A few inches of sand spread on a stiff clay soil will produce a change which will surprise any one not acquainted with the theory of mixing soils. For a clay soil which extends over the whole or a large portion of the field, the best plan is to haul sand into the barnyard in the fall, after the manure is out. If the washings or scrapings of the road can be obtained, so much the better. With the economical farmer there are many ways in which sand may be used to great benefit. If it is hauled during the fall and placed under shelter, the stables may be filled up and cleaned out several times during the winter.

Too many of our barnyards slope towards one side, and the liquid is allowed to run off and waste. Now, if at the edge of the yard a pit be dug and filled with sand, it will save all this waste of the best portion of the manure, and will form the very best manure for stiff and clayey land. Where there is no such land, it will form an excellent top-dressing for meadows or pasture lands. With good management a farmer may in this manner add thirty or forty loads to his manure heap at a very slight cost, as all the labor may be performed at "odd times." Sand mixed with pig manure will improve its quality for any purpose, and especially so for clay land.

Clay, not being as good an absorbent, is best applied directly to sandy land, without going through the barnyard or pig pen, and may be put on in lumps and then harrowed, or be plowed up and well harrowed before hauling. Of the two I prefer the latter, especially if applied to land already in grass or pasture. If applied on the surface, the clay will soon work itself into the sand, in the same manner I hope I have worked into you, good reader; that is, by weight.—AGRICOLA, in *Ger. Telegraph.*

FEEDING-BOXES BETTER THAN RACKS.—Horses do not naturally gather their food from trees, why then should they be compelled in Winter to take it from a rack overhead? Every mouthful requires the animal to assume an unnatural position, which with young horses particularly, must interfere with the proper development of the muscles of the neck, and the graceful carriage of the head. May not the awkward manner in which many horses thrust their noses forward and upward, be attributed to the force of habit acquired in feeding from a high rack? Another serious objection to racks is, the danger from the seeds, dust, &c., falling into the eyes of the animal; and, further, all the effluvia of the stable, the vapors from liquid and solid excrements, the exhalations from the skin and from the lungs, pass upward, and are to some extent, absorbed by the hay—an addition neither savory, nor healthful. The feed-box may be made equally convenient with the rack, and is open to none of the above objections. It need not be large, and if the bottom be made of slats, all rejected fodder can be easily removed. A closed box on one side for feeding grain will be needed if the bottom of the main box be left open. The above may seem an unimportant matter to many, but everything is worthy of attention which can add to the comfort and health of the noblest domestic animal.

STOCK REGISTER.

How to Raise Hogs.

A. G. Mullins, of Kentucky, in a communication to the *Genesee Farmer*, offers the following hints on the raising of hogs:

We intend not to say how a few hogs can be raised to an advantage, but how a man may raise them as a business, with the least labor and expense, and leave the land in the best condition. All farming, in my opinion, ought to be conducted with a reference to the continued improvement of the soil. Present gain, by a deterioration of the soil, will ultimately prove to be a loss.

Say we have a good stock to begin with—a stock that matures early and fattens well. The pigs should come from the middle of March to May. There is a great advantage in pigs coming at this time, as we can graze them through two summers and have them to keep only through one winter. They come to be of fine size by the second fall or winter. Hogs may be pushed into market younger, but at more expense in grain, and they will be smaller at fattening time, which is a great advantage.

The greatest profit in hogs is in grazing them, and turning them upon grain fields, where they can gather for themselves, and having them large and in good condition, at fattening time. The sows and pigs should be kept in good growing condition, by feeding them on Indian corn, or corn meal made into slop. As soon as the clover begins to blossom, or a little before, turn them upon it. Sows and pigs should still be given some grain, while in the clover. Having a field of oats early sown—the size of the field to be in proportion to the number of hogs—and as soon as the oats are ripe, turn the hogs upon them to gather for themselves. To pasture hogs to the best advantage through the summer, it will be necessary to sow a field of rye, as above, and after they have eaten the oats turn them upon the rye. Though the rye will be ripe before the oats, it is thought better to let the beards rot, and it will keep good in the field until September; whereas the oats will rot in a short time. After the hogs have eaten the rye they may go upon the clover again. They then should have old corn to keep them from being reduced in flesh; the second crop of clover not being as good as the first. This method may appear very wasteful to those not familiar with it, but if a little grain is left on the field, it will be an excellent fertilizer, and the straw and everything that grew on the field is left there, except the fat that is driven off with the hogs. This leaves the field in good condition for the next year.

The hogs should be kept in good condition through the winter and spring. The best place to winter them is in the woods, and let them have low, long, dry shelters to sleep in. Let them be turned on the clover the second year about the time it blossoms, and I prefer to give them a little grain. Then let them go on the oats and rye as they did the first year. When they come off the rye the second year, it is very important to grain feed them while on clover, until they are put up to fatten. It is a great advantage to have hogs large and in good condition when fattening time commences. A lot or small field of corn, early planted, to turn on about the 15th or 20th of September is an excellent plan; or fence off with a temporary fence, a portion of a larger field. Continue the hogs in the field until about the middle of October or the first of November; then take them to a field intended to be ploughed for next season (a clover field is best) and feed them plentifully until about the first of December, at which time they will be fit for market or slaughtering.

By feeding down upon the field, you save labor of gathering, and leave all that grew upon it, except what is driven off in fat upon the hogs. By sowing the field in rye a few days before the hogs are taken off, a fine crop can be obtained. The grain left upon the fields pastured during the summer will soon spring up and afford a fine fall and early winter pasture. If it be intended to sow the oat and rye fields in clover, the pasturing down of the grain makes no difference. Take off the hogs as soon as they eat the grain. The decaying straw and manure left upon the field will be an advantage to the clover.

The hogs should be well salted, and have access to water. From the middle of October to the first of November it is important to have a good, dry shelter for them to sleep in; earlier than that they will generally sleep in the open air. If it is desired to fatten hogs the first season after we commence raising, of course we must buy them of suitable size in the spring. The number kept to breed from must be suited to the number we want to raise. A good brood sow will raise two litters a year, and from six to ten at a litter. A little experience in the matter will direct us aright.

By a strict attention to the above method of raising and fattening hogs, as much or more can be obtained for the grain than it can be sold for, and all of it fed upon the farm, which is no small consideration. By raising grain and selling it off the farm, it will be becoming poorer. By raising and judiciously fattening hogs, the farm will be growing richer. This, in ten years, will make a great difference. I have known some farms, reduced to almost sterility by bad management, by a proper management in sowing rye and oats and clover, and feeding then on the ground, made very productive. Feeding Indian corn upon the land is very improving to it. I once knew a field planted in corn for four years in succession, and the last crop was as good as any that preceded it.

In regard to the worth of grain fed to hogs, I made one long-continued experiment, which satisfied me that it is remunerative. Some years ago I had a lot of corn which I could sell for only twenty cents per bushel. I concluded I would feed it to some pigs, which came about New Year's. I gave them two ears a day each until April—about ninety days. I weighed an average one on the 1st of April, and it weighed 25 lbs. It was then worth 2½ cents per pound, or $1.30. It had eaten one and a half bushels of corn. I then increased the feed to three ears per day until the 15th of July—about one hundred and six days. Each ate from April until the 15th of July, three hundred and eighteen ears; weight 130 lbs., and worth $3.25. They had eaten each from January to the 15th of July, four hundred and ninety-eight ears—not five bushels of corn, which was only worth $1; whereas the shoat was worth $3.25. While corn was worth only $1 for five bushels in the market, less than five bushels was worth $3.25 fed to hogs. This was effected without clover in the summer.—By calculation the above weights at four to five cents per pound, you will have the worth of the pigs at present prices. This convinced me that corn can be profitably fed to hogs.

I think now I have redeemed my promise; shown how hogs can be raised as a business, at the least amount of labor and expense, and leave the land in the best condition.

The Art of Catching Horses.

A correspondent of the *Valley Farmer* truly remarks that there are few things more aggravating than to be in a hurry to go to some place, and have a great trouble to catch a horse. I have sometimes made the assertion that a horse which I raise will never be hard to catch unless some one else spoils him. The way I manage is to keep them gentle from colts, handling them as often as convenient. When young horses are running to grass, give them salt occasionally and let them fondle about you, making as little show as possible of *trying* to get hold of them. There is nothing surer to spoil a horse forever than to run as if trying to hem him in, and yelling at him authoritatively, or scolding, he can see, just as well as you know, that he is out of your reach. To put on the cap sheaf, whip him severely for causing trouble, and my word for it, the next time you want to catch him he "will not listen to the voice of your charming, charm you never so wisely."

Horses learn a great deal by signs. In beginning to teach them to be caught, go toward them on the near side, slowly and cautiously, making no demonstrations at all. If the animal begins to walk off, stop, and whistle, or otherwise manifest indifference, until he becomes quiet again, then approach as before. When you are so close as to be confident he will not escape you, speak kindly, and hold up one hand, ready to touch him on the withers, and thence pass it along the neck until you can get hold of his head, but do not seize him with a grab, as this tends to excite fear afterwards. By practicing this course, using the sign, viz., holding up the hand when you are a little farther away each time, a horse may be taught to stop and be caught, even when in considerable glee (playing), simply by holding up the hand and using some familiar phrase, such as *whoa boy*, &c. By way of caution, however, watch his actions and *intentions* closely during his tutoring, and if at any time or from any cause you see, that he is going to run, do not by any means say anything or hold up your hand, as the sign given and disobeyed a few times will almost inevitably prevent your making anything out of it in future.

Wool Matters.

We clip from the *Prairie Farmer*, of the 26th May, the following credited to the *Economist:*

From all we can learn from different localities, but little has yet been done in wool.—Prospects, however, begin to be pretty actively discussed. It is pretty certain, we think, that prices will be remunerative far above those of the last few years, with the exception, perhaps, of the latter part of the season last year. The heavy importations noted elsewhere, indicate that the demand is to be active, an indication that is strongly seconded by the fact that nearly all the woolen factories of the East, that have of late been inoperative, are being got in order for a heavy business the coming summer and fall. The army demand must for some time, at least, be large; and even the cessation of hostilities and the disbanding of the armies, which cannot be hoped for before fall, would have but little effect in the amount needed for the winter months, by the citizen soldiers retiring to private life. Trade, in such an event, it would seem must be brisk, though the somewhat financially crippled condition of the country, both North and South, may give a different result.

Imports of wool, per Custom House returns, at New York for the weeks ending:

1862.		Bales.	Value.
January	3d,	645	$47,268
"	10th,	1,501	108,974
"	17th,	3,797	270,232
"	24th,	4,313	266,070
"	31st,	2,520	173,765
February	7th,	3,806	215,715
"	14th,	2,368	141,312
"	21st,	1,471	71,585
"	28th,	636	61,215
March	7th,	170	18,708
"	14th,	1,356	91,707
"	21st,	1,420	115,217
"	28th,	3,551	274,423
April	4th,	916	65,634
"	11th,	737	54,888
"	18th,	179	12,327
"	26th,	1,925	121,484
May	2d,	167	21,638
"	9th,		[illegible]

Breed Horses.

MESSRS. EDITORS:—In some remarks published in your issue of January 23d, I suggested that, owing to the new and unprecedented demand for horses for army purposes, the breeding of horses in New England was likely to become one of the most profitable departments of husbandry.

Now if any of your readers should act upon my suggestion and conclude to raise one or more foals the present season, the question of vital importance for them to decide is, what kind of horses they will breed, and I therefore feel that I may do them a service, and perhaps help them to a decision of the question, by quoting from Herbert's "Thoughts on General Breeding" as follows:

* * * "In relation to breeding for general purposes, that is to say to breeding the general horse, with a view to profit on the part of the breeder, and to the practical improvement of the horse stock of the country at large. * * I shall lay down two axioms, which I consider to be as self evident, as it is that the nearest line between two points is a right line, * * * they are these:

First. That the excellence of any and every breed of horse, and of every individual horse, consists in his possession of the greatest attainable degree of pure thorough blood directly traceable to Barb, Arab or Turk, that is compatible with the weight, bulk and strength in hauling, required for the purpose for which the horse is intended.

Second. That to be of advantage, the pure blood must come chiefly from the sires, not from the dam's side." These two axioms accord fully with my own experience and observation, and I would therefore suggest that the use of stout, bony, English thoroughbred stallions for our so called Messenger or Morgan mares of large size, will produce just the kind of horses most profitable for the New England Farmer to raise; that is to say, I believe the produce of this cross is far more likely to turn out a fast trotter than the product of the ordinary Morgan or Blackhawk stallions. Or lacking extreme speed it is almost certain to be a stylish grand-actioned carriage horse that will, at maturity, be sure to command a good price.

Whereas the little spindle-shanked eight or nine hundred horse that at maturity fails to shew the 2:40 gait, is worth, comparatively nothing.

All other qualities being equal, a horse weighing from eleven to twelve hundred lbs., will bring more than twice as much as the horse that weighs from eight to nine hundred, and every breeder knows that the difference in the cost of raising the larger or smaller horse is very insignificant.

Of course where the service of a thorough bred horse cannot be obtained, I would select the one having the "greatest attainable degree of pure thorough blood," and that should shew the best combination of size, style, and bottom; and if, superadded to these qualities, he should shew good trotting action, so much the better.—MIDDLESEX, in *Mass. Ploughman.*

Working Oxen.—Discipline vs. Strength.

The complete and thorough discipline of working oxen, is an important subject, and one that has not sufficiently claimed the notice of our agricultural societies. With them, strength is the great point of merit, and this is the criterion of judgment. A yoke of oxen or steers that can draw the heaviest load upon a stone drag, and who do it handsomely, are *the pair*, and no other test need be given of their excellence. It is enough that they can make a good pull, and do it square, even if in general farm work they are as unhandy and awkward as cattle only half accustomed to the yoke. We will admit that it is important to have the strength of oxen developed, to have them settle down steadily into a determined pull, with no shirking or giving back on the part of either ox; and we have seen some admirable examples of the discipline of cattle in this particular. Oxen are trained for this special object; they know the voice of the driver, and he has tested their strength upon his own farm for the particular purpose of entering them for premium, as "draught cattle." This is well, but are there no other qualities to develop, besides that of strength, quite as essential in order to make them a good, kind, and handy farm team?

The oxen found upon the farms in our State are widely known as excellent workers, of kind disposition, and most usually under good management. For general farm work they are admirably adapted, and are used far more common than horses. We do not know of any farmer whose cattle are not well fitted to perform their work, hauling any load which it is found necessary to attach them to. So far, strength is not wanting; but let us look at other points in their discipline.

We have seen oxen, well matched for size, color and disposition, oxen that were trained to draw upon a stone drag, and to do it in the best manner; and yet, for the every day work of the farm in the various operations of plowing, carting, &c., they were as unfitted for it as a pair of two-year-old steers, so far as perfect discipline and hardiness were concerned. All this was the result of bad management on the part of the teamster or owner; they had been trained to pull, but knew nothing about anything else. If upon a cart, it would take a half acre of land for them to turn round on; and if engaged in loading manure, the cart could not be backed to the window or heap, especially if the chance of doing it was somewhat narrow, without lifting at the wheel, or bothering and fretting the cattle. Now which is of the most importance to the farmer, and of

most advantage to him in performing his farm work, to have oxen used only to drawing heavy loads—even if they can do that perfectly—or to have them handy and gentle in setting a cart, in backing it with a load if required, or in plowing and carting upon the farm.

It may be said that farmers do not sufficiently develop the strength of their oxen, and it is necessary for agricultural societies to offer premiums for this purpose. It is not important for the farmer to draw very heavy loads with his oxen; he has therefore no inclination for it, and nothing to reward him for so doing.—But for the general purposes of farm work he has ample opportunities, and can employ them daily bringing his team under the most perfect discipline. This is admitted. But farmers are generally as apt to neglect the proper training of their oxen as they are the development of their strength. We see evidence of this almost daily, in the awkward manner and unhandy movements of oxen belonging to good farmers even; and we insist upon more care in the management of oxen, to have them under better and more perfect discipline, and to have them not only good at a pull if necessary, but kind and handy in the yoke, and intelligent and steady at work.

Let more attention be given to this matter of discipline in our working oxen, and let our agricultural societies offer suitable premiums for the yoke of oxen that can the best set and handle a cart in any desired spot, with the most perfect ease, and in the best manner, as well as for cattle that can draw a required load upon a drag in the handsomest and most satisfactory condition.—*Maine Farmer.*

Soiling Dairy Cows.

In an essay on Cheese Dairying in Herkimer Co., written for the forthcoming Transactions of the N. Y. State Agricultural Society, by X. A. Willard, of Little Falls, N. Y., we find the following:

In the latter part of July or first of August pastures will begin to deteriorate, and in order to keep up the flow of milk there will be a profit in giving cows additional green food; this is easily effected by soiling.

Corn fodder is here usually employed for that purpose, the seed having been planted in rows or sown broadcast. If the ground has been suitably manured and cultivated, and the seed properly put in, the yield will be twenty or more tons, green weight, per acre. From one to five acres may be profitably used for this purpose, and will be found to pay largely for all the trouble and expense of cultivation, feeding, etc. There will not be any loss by having more food than is needed for soiling, as any surplus may be converted into fodder for winter use, and when properly cared will be quite as valuable as the best hay.

One advantage in addition to the increased quantity and better quality of milk, resulting from soiling in connection with pasturage, is that it keeps the cows in condition. Deep milkers are apt to milk down poor and weak during the latter part of the season, and it is better to keep the cow in good condition in the fall and through the winter than to attempt to bring her up in the spring.

To one who has made a practice of soiling cattle in this way for a short time, the small quantity of land employed for the purpose, compared with that needed for pasturage, will doubtless have many times occurred to him; and the question is now being canvassed by intelligent dairymen, whether dairying may not be carried on with more profit, with less trouble and expense, with less cash advance by keeping stock confined within narrow limits and under the soiling process, than at present under the system of pasturage, etc. The practice of soiling does away with the interior fences of the farm,—the gain here is very great—besides the larger quantity of milk per cow, the additional number of cows that can be kept on the same farm, their better health and condition, the increased quantity and quality of manures, together with other advantages, are strong inducements in favor of the system, and must commend themselves to those who have given the subject attention.

It will take, on an average, about one hundred acres of our best farming lands to keep through the year a dairy of twenty-eight cows, but under the soiling process the same farm may be made to keep fifty cows. The practice of soiling has been in successful operation in Europe for many years, and Europeans as well as those who have entered upon the system in this country, earnestly advocate it as in every way superior to pasturage for keeping stock, and especially cows in milk; and to those who have farms well adapted for the purpose, and who contemplate purchasing more land, in order to increase the number of animals in the dairy, a trial of this system, at least on a small scale, would be well worthy of attention, that it may be seen whether the object sought for may not be accomplished by soiling rather than investing capital or running in debt for more land.

Breeding of Sheep.

The following remarks on South Down, Leicester, and Cotswold sheep are from a report of a lecture by John Twynam, before the South Hants Farmers' Club:

Amongst the finer qualities, the South Down holds the foremost rank where the taste of the epicure is to be consulted, old mutton required, parks to be fed; or on arable lands of a dry subsoil in a warm locality, these sheep might graze with as great advantage as any other. They would also drive well long distances without injury, making a close bite on short herbage, but in the winter season they are not so good proof against our fickle climate in exposed situations.

The Leicesters, for grazing purposes, on rich pastures, where no folding was required, the temperature warm, and weight of carcass, with early maturity in view, were perhaps to be preferred to all others, especially when it was remembered that this breed had partaken with other breeds, of the improvements of the day; for they no longer found them, as in the days of Bakewell, beautiful indeed in symmetry and high in blood, but too often like so many rolling tallow-tubs, fit more for the chandler's than the butcher's shop. There was now a better intermixture of muscle or lean meat with fat, by which the quality of the mutton was much improved and the fleece was a third heavier, without having suffered any deterioration in quality.

The Cotswolds, in former days, were of a large, yet rather coarse-grained carcass, with a good proportion of lean, heavy fleece of wool, and more hardy than the Leicester, by judicious crossing with which they have been much improved, arriving much earlier at maturity, yielding a fleece of finer quality, scarcely diminished in weight, and adapted to the same purposes to which the Leicester alone had hitherto been devoted, with the additional advantage of retaining with the cross their original hardier nature. The produce of the cross has been styled the Improved Cotswold, and is bred chiefly in the counties of Oxford and Gloucester, from the hills of which latter county they derive their name. Acclimated on this elevated part of the kingdom, and feeding on pastures far inferior to the rich herbage on which the Leicesters are in the habit of grazing, it is to be expected that they would be characterized by a disposition to improve when removed to finer soils and fuller keep. I have known them wintered on the arable soils of Hampshire in the open air, with hay and turnips only, become superfluously fat; while other breeds fed on the same food, side by side, have barely sustained themselves in good condition.

Feeding for Beef vs. Milk.—A writer in the *Boston Cultivator* speaks of the experience of a farmer in Western Massachusetts on this subject, in substance as follows: S. B. has heretofore kept milk cows, but now stocks his pastures with farrow cows and other animals suitable to make grass fed beef, and finds it, he says, more profitable than keeping a dairy.—He makes from $10 to $20 per head on such cattle, often in three months time. Another turned out one hundred of such cattle into his pasture and cleared $1100 in a few months the past season. Last year Mr. B. stall-fed oxen for the purpose of feeding his hay and grain on his farm. This winter he is feeding sheep, and has just purchased 72 grade Leicester wethers, from Canada, weighing about 140 lbs. a head, at 4 cents a pound—a very fine flock. With these he intends to test the comparative profit of feeding beef and mutton.

THE POULTERER.

Which is the Best Breed of Fowls for Farmers?

The domestic fowls seem to have been known to man from a very early period; of their origin there is little definitely known. Abel, the first shepherd of whom we have any account, is supposed to have been the first to keep fowls. To the male the privilege was given of reclaiming St. Peter when he denied his Saviour. It is very certain that fowls have been, next to the dog, the constant attendants upon man in all his migrations. This genus embraces some of the most beautiful birds in existence, and the most useful and valuable to the human family. There are ten distinct species; two have remained wild and eight have been domesticated in the various quarters of the globe. Six are natives of Asia, one of Oceanica, three of Europe. The St. Jago fowl is a native of Sumatra, and found wild in the forests, and also in the western part of Java.

Jungle Fowls.—These magnificent birds inhabit the jungles and the large forests of India. The domestic species are beautiful; some have their feathers curiously formed. This I can say of the Frizzled Fowls, natives of Japan, their feathers pointing forward or turned the wrong way; the American climate will not suit them.

Silk Fowls.—Natives of China, India and Japan—shaped like the Shanghai; has the whole body covered with soft down, the webs of which are so separated as to appear like hairs or glossy silk; the skin purplish; the membrane that covers the bones dark purple; when boiled the bones become black. If this fowl is crossed with any other breed, the cross becomes hairy, also the bones black. The cold of our climate is unfavorable to them.

Rumkin Fowls.—Natives of the Island of Ceylon; has no tail; the vertebra is deficient.—They suit our climate and raise their young well—good layers.

Bantam.—A native of Bantam, India. Plumage white; feathered on the legs out to the end of the toe; very small; good mothers; good layers, and agree with our climate.

Crested Fowls.—Natives of Normandy. Plumage exceedingly beautiful; body, neck and tail satin black, with metallic tints of green; crest white. The crest of the cock is composed of straight feathers; they grow from the centre of the crown and fall over outside, forming a circular crest. These are valuable as layers, but the cold affects them and they soon inhale the roup—in fact our climate will not suit them.

Dorking Fowls.—Natives of Dorking, England. Plumage pure white; a very delicate species. These birds have a double hind toe, so that they have five toes instead of four. This is the much prized fowl of England, but they will not suit our climate, they being too delicate.

Black Spanish Fowls.—Natives of the Netherlands. Plumage rich satin metallic black, in the light of the sun reflecting their shades of bluish and greenish purple; face large; ear lobe pearly white. In that country they can be obtained now—birds of the greatest beauty as to form and feather, and of the highest value as regards quality and breed. Why they are called Spanish puzzles me. Their large comb and gills become frosted, and they soon inhale the swelled head, and mortally ends the matter.

Shanghai.—A native of China. Plumage buff. The most gigantic of all fowls. They are great eaters; bad mothers; their meat coarse; their young do not feather in time for early market, and in fact not fit for use until they are one year old, when they receive all their plumage, as no bird, either in the wild or domestic state, is in pure health while receiving their feathers. They agree well in our climate, but the richness of our corn makes them gouty, and they fall down in the legs.

Game Fowls.—Natives of Calcutta. Plumage dark red; black breast; head small, serpent-like; neck long and thin; legs dark slate; they are what the Arabian is among horses, king among fowls. His eyes sparkle with fire; when surrounded by his females he is full of animation.

And now, gentle reader, after breeding all of the above species of the domestic fowls, imported expressly and procured by an experienced breeder in England, I can say that, in my experience, their breeding in this country, for the sake of profit, will be useless, owing to our climate on birds from those warm countries. I have frequently been asked which is the best fowls for the farmer. I must say, with truth, the Game Fowls are the best for all purposes—for beauty, for laying, for health, suitableness to our climate, raising more chickens, small eaters, better mothers, feather early, and come to the marketable state in early seasons. To prevent the fighting of the males, never cut their gills and comb. I never have tried any variety of the domestic fowls, such as the Brahma Pootras, Buck's County, Jersey Blues, and such like, they being only a variety and not a true species.

The domesticated families of the feathered creation seem, like the untamed tribes, inexorably confined within prescribed geographical bounds, and incapable of propagation or growth beyond their original limits—while others, still, though comparatively independent of climate, are nevertheless so specially fitted to certain conditions to satisfy their natural wants. If you cross them to make them acclimated, will you not introduce unhealthy stock or very delicate birds? I think you will. Here is another reason why fowls should not be crossed; for instance, a Shanghai with a Spanish; you degenerate the Shanghai and increase the Spanish; they will be medium in size; you lose the laying qualities of the Spanish. Will nature permit her work to be made better by man than the Creator has made in the production? They have a Divine law to carry out and no human power is capable of making a breed of fowls better than those intended for us. I must acknowledge they do mix now and always have done so, but they are the worse for that. Had they never mixed with each other, but kept pure in breeds, each breed in their own climate, they would lay more eggs, and raise more chickens than if they were crossed a thousand ways. But the Divine law is given to them to follow man in his widest wanderings, and make a part of his food, whether he dwells on a continent, an island, the sea, or the burning heat of the Torrid Zone.

They are like hot-house plants, subject to disease when exposed. This is the reason so much disease is among the delicate constitution of poultry. For instance, bring a plant, say a camellia from China—plant it out in the open ground—will the frost kill it? I think it will. Well, then, if a fowl which has been raised in or is a native of a warm country, is placed out in our climate, will the cold affect its constitution? I think it will. Well, then, if it is sick can it carry out natures's laws? I think not. I have obtained this knowledge by my own experience in breeding all the eight true and pure species of the domestic fowls.—J. J. Bower, in *American Farmer*.

Summer Chickens.

Those who bring out chickens in April, or earlier, do it at the risk of making considerable loss, as that month is usually a cold, wet and windy one. When successful, however, they bring a high price, sometimes when marketed in July, as high as fifty cents per pound. This has prompted many to get broods as early as the last of March, and the first of April.

We copy the following article from the *London Cottage Gardener*, and think it worthy of attention by those who do not care to send chickens to market, but only to provide themselves with an annual stock.

There is an old proverb in some parts of the country that summer chickens never thrive. It runs thus in parts of Hampshire:

> "Chicks that are hatched when there's making of hay,
> Will never grow up but pine away."

All those who wish to rear poultry without much trouble choose the month of May for doing so. Sometimes a hen deserts a few days before hatching; sometimes she dies upon it. If we listen to the above tradition there is no remedy. But we believe there is, and a simple one; set more eggs, and be not deterred by fables. We go on hatching till August, and we are successful. The London market is only supplied by this process with the poultry for which it is so justly celebrated. Fowls of the

same age can be had all the year round because the work of hatching never ceases. If we were to tell such of our readers as require instruction on the subject, that any expensive or very troublesome process was necessary, they might, perhaps, say, that of two troubles, they thought waiting was the less. But it is not so; and we confess, it seems to us that the idea can only be supported by that undeniable argument, "I do not know how it is, but I know that it is so."

Another large class of poultry breeders say they do not believe in the saying; but June is too late for chickens. Well, if you say it is too late, we say—prove it. The nights are shorter in June than in May; the weather is warmer. Nearer to the winter you say; but you have four months to the end of October, all good, growing, genial weather, and at that age, your chickens will stand anything. They are three weeks or a month later, that is all. It may be said there must be some foundation for the proverb; the sun is too hot and scorching, and if chickens are entirely exposed to it, they will die. Put the rip, with the hen into it, in a shady place, but near the sun. As in April you gladly turn it to the sun wherever you can find it, so in June turn it away. Let it be near covert for the chickens, shrubs, artichokes, pears, anything that produces shade and harbors insects. You will find your chickens live there a great part of the day, and always when the sun is most powerful. They find there the insects that have deserted the parched grass. Let them be well and frequently supplied with fresh and cool water. If you can do it, or have it done, you will find a great advantage in having a few pails of water scattered every evening on the ground they use in the day. It freshens it, and keeps it cool. To sum up: give your chickens shade, clean and cool water, with a run affording them covert; and we promise you, you shall say and prove that the prejudice against June chickens is a popular error.

HINTS TO FOWL KEEPERS.—"B. S. H." gives, in the *Prairie Farmer*, his method of keeping fowls, thus:

"The way I keep my hens laying and healthy, is, in the first place, by giving them plenty of corn and oats, also some buckwheat. Last fall I commenced throwing out ashes from my stove in a pile near my yard, so as to use in compost in the spring. I soon discovered my hens come to the pile every morning as soon as light, (cold or hot,) through the winter. They would pick up and eat coal, from the size of a wheat kernel to a thimble. My hens commenced laying in November, and have laid ever since. They are last harvest chickens. If they cannot have access to wood charcoal, pick up and burn all the bones you can find, and pound them fine, and place them where they can have easy access to them."

THE BEE KEEPER.

Random Thoughts upon the Bee.—No. 7.

ON HIVES IN GENERAL.

The forest is the original and natural dwelling for the bee, and the recess of some cavern, or hollow trunk of a tree, the ancient and most natural residence, and place of deposit for this sagacious insect. It is the art of the Apiarian, which has taught the bee to become domesticated, and yield part of his labors and rich treasure, for the comforts and conveniences of man. To assist the Apiarian, the farmer, and even all classes of people, who may possess the advantages and the disposition, in deriving the greatest possible good from this store house of nature, is the immediate design of this number. In order to invite the bee into our domestic employment, it became necessary to substitute a new dwelling in place of the hollow tree of the forest; hence the reason why hives were first made of a section of a hollow tree. The difficulty of obtaining this, led to the expedient of weaving the straw hive, which is occasionally used at the present day. The many objections which have arisen to both these hives, have led the Apiarians, through nice and curious research, to ascertain the best materials for constructing the hives for bees, and the best forms to construct those materials into, to obtain the greatest profit from the labors of the bee, with the least expense to ourselves, and loss and damage to the bees: for the solution of this question, we must resort to the experiments of the Apiarian. Happy would it be for us and them, if their labors could furnish an answer to the inquiry promptly; but unfortunately this is not the case, their own experiments have deceived them, and this should lead us to be cautious that they do not deceive us.

The bell-hives are unhealthy to the swarm, and difficult to extract any portion of the honey from, without suffocating the bees The glass hive constructed merely to gratify the curious has been found to be unfriendly to their labors; no development of their secrets

have been obtained, for no sooner is light admitted, than the utmost confusion prevails. I therefore call in question all facts stated as the discoveries of a glass hive. Although the bee will work in any hive, if any shape, yet the choice of that shape is of importance to the health and profit of your bees. Many still continue to use the common hive, and smother the swarm when they take away the honey—both are bad; and the latter is not only bad, as being unprofitable, but absolutely cruel, and unnecessarily so. To remedy these evils, the Apiarians of all countries have been led to the improvement, both in the form of the hive, and method of dividing the profits of their labors with the bees, and yet preserve the swarms. Happy for the cause, both of interest and humanity, they have succeeded. Had these Amateurs been agreed in one result, as being the best of all their experiments, I might now say so, and close this number with their joint recommendations; and a second thought prompts me to do so. "Brevity," hereafter, shall be my motto, as I find that working upon the farm daily converts me ere night into an agreeable receptacle for rest. In conclusion I would recommend the storing system invented by Gelieu—place small boxes upon the hives, when full remove. I may take this subject again in future. W. H. MORRISON.

TROY, WIS.

RAPE FIELDS FOR BEE PASTURAGE.—The rapidity with which bees will build comb and gather honey, under favorable circumstances, is so extraordinary as to be almost incredible. Mr. Brink says that he has known a strong swarm to fill its hive with comb in seventy-two hours; and that colonies expelled in August, put into empty hives, and transported to the heaths, would fill the hive with new comb and gather from thirty to forty pounds of honey, in the brief season for work in which they could labor. In the spring of 1858, one of his neighbors, carried his stocks, whose stores were nearly exhausted, to a distant rape field then in blossom. The weather was raw and unfavorable at the time, but suddenly changed, becoming mild and clear. The bees labored so successfully, that after a few days his neighbor called on him for advice, saying that the liquid honey was running in streams from the hives. On examination it appeared that all the combs were filled to overflowing, in consequence of the superabundance of nectar.—*Bee Journal.*

Culture of Bees.—Ventilate Your Hives.

A cheap, but tasty bee house, or a hive set here and there among the shrubbery about the house, has a wonderful home-like and interesting appearance. The curious habits of the bee, and the lusciousness of its products, have a charm for children which they never forget, if they have once visited the farm and enjoyed them.

A swarm soon becomes acquainted with those who have the care of them, and will cover the flowers of the garden or the farm in search of honey, and scarcely ever molest any one who is careful not to injure them. In picking raspberries and strawberries, it is rarely the case that any one is stung, though hundreds of bees may be visiting the blossoms for their rich treasures, at the same time.

We visited a bee master recently who informed us that he took *one hundred* pounds of honey from a single swarm, last fall. This swarm wintered well, while several others standing near were utterly ruined by mice.

The greatest drawback, however, in bee-keeping, is the destruction occasioned by the accumulation of their own breath and the exhalations of their bodies. These are much greater than many suppose, so that the stronger and more numerous the swarm is, the more danger there is to them from their own vapor. It is quite common to hear bee-keepers say, they have lost their strongest and best swarm, and the loss aries from the cause we have just stated, or, in other words, from the *want of proper ventilation.* Three-fourths of all the swarms lost, die from this cause.—*New England Farmer.*

BEE-KEEPER'S CALENDAR FOR JULY.—In some seasons and districts, this is the great swarming month; while in others, bees issuing so late, are of small account. In Northern Massachusetts, I have known swarms coming after the Fourth of July, to fill their hives, and make large quantities of surplus honey besides.

In this month all the choicest spare honey should be removed from the hives, before the delicate whiteness of the combs becomes soiled by the travel of the bees, or the purity of the honey is impaired by an inferior article gathered later in the season.

The bees should have a liberal allowance of air during all extremely hot weather, especially if they are in unpainted hives, or stand in the sun.—LANGSTROTH.

THE HORTICULTURIST.

A. G. HANFORD, : : CORRESPONDING EDITOR

Strawberry Culture—Annual Renewing.

As the crop just off has been so abundant, we have the greatest encouragement to give the beds the best preparation for another year's crop.

The usual way of letting the beds "go to grass," weeds and runners, the balance of the season, is poor economy, and then to expect a crop the next year, of anything but weeds, is folly; and necessitates changing the beds to a new location every second or third year, which is not always convenient, especially in city gardens.

We prefer *annual renewing* of the beds, and *now is the time*. If in garden culture, in small beds, thoroughly loosen the whole bed with the digging fork, to the depth of ten or twelve inches, then with the garden rake, clean out all grass and weeds, and thin out the plants, to one each square foot; this will admit of one or two good hoeings afterwards, and by the end of the growing season, you will have your ground covered with young, vigorous plants, and clean for another year.

The same remarks apply to field culture; but to facilitate the loosening process, we use the light subsoiler run by one or two horses, through and through the beds at intervals of six to ten inches, from ten to twenty inches deep, according to strength of team, and tool; this thoroughly pulverizes the soil, and renders the weeding and thinning process an easy one, which can nearly all be done with the rake.

We have pursued this plan for the last five years, and know of no mode of culture so easy and suited to the wants of the strawberry.

In place of the light subsoiler, a simple coulter taken from a breaking plow, and attached temporarily to a strong beam with handles—such as any ingenious farmer can rig in an hour's labor; (and which would an hundred times repay the cost in fixing up if used frequently during the early part of the season among all the small vegetables of the garden.)

This severe cutting of the roots, and lifting of the soil is very beneficial to the remaining plants, but should be performed only at this season. Immediately after fruiting is a period of rest to the plant, from two to four weeks, during which most of the varieties are dormant from exhaustion, and transplanting can be performed at this time if the weather and ground is quite moist, or perhaps better at the time of revival when the autumn rains commence.

There are objections to a spring overhauling of the strawberry bed. It will require the mulch applied again to preserve the fruit from the soil when ripening, whereas if the bed is summer worked and properly mulched in the fall, the plants will require no care in spring until after fruiting. J. C. PLUMB.

MADISON, WIS.

Strawberries.

The strawberry patches that have been covered during the past winter, should now have the covering raked off. Those treated in this manner will look nearly as green and fresh as when covered last fall, and will well repay the extra trouble and expense of covering in the improved quality, as well as quantity, of fruit in the season.

PREPARATION OF GROUNDS FOR NEW BEDS.

This will vary much with the different kinds of soil, as well as somewhat with the latitude. Deep plowing or spading will be first in order under any circumstances. If the soil be light and sandy, the addition of a well decomposed compost of manure and muck, or clay, will be essential if reasonable crops are desired. If the soil be heavy clay, with a tendency to be acid, a dressing of fresh stable manure, and an application of lime, will often prove beneficial. Most prairie soils need lime. Wood ashes will well repay their application on any land that is to be planted with small fruits.

BEDS.

The size and shape in which these should be made, will depend on whether the plants are to be kept in stools or allowed to run. Our preference is to plant in large beds, leaving a space of two feet between the rows, putting the plants one foot apart in the rows, and keeping the runners picked off. This plan gives full opportunity for mulching to protect the fruit from dirt. Finer berries are produced, from the fact that each plant has room, light and air. The plants or stools attain a

large size, new fruit crowns are developed each year, and the plants last in good bearing condition as long as they are well cared for, and the ground furnishes sufficient nourishment to produce full crops. The only objection urged against this method, is on account of the expense of keeping off the runners. Yet if the labor of resetting every three years be taken into consideration, and an accurate account of all the expenses on the usual system of letting the plants run together in masses, be kept for a series of years, and compared with the expense of a similar plot kept in hills, the difference in their cost will not be as great as might be supposed. If the plants are to be allowed to run, the beds should be narrow, and separated with walks, from which the weeding and picking may be done.

VARIETIES.

The hermaphrodite varieties are the only ones which have any special claims on ordinary cultivators. Of these, Wilson's Albany is now most widely known, and will probably give for common care, the most and largest fruit of any well-known berry. The Iowa is probably the most hardy variety, and quite equal to the Wilson in productiveness. It is disseminated through the country under many names, and wherever planted and reasonably cared for, is sure to fruit well. There are many other varieties which do well, and should claim a share of attention. The most promising of these is the Triomphe de Gand, which has been described in these columns, and which bids fair to become quite as widely known as the two first named varieties. We perceive that from all quarters the attention of fruit-growers and amateurs is being turned to it.—*Christ. Advocate.*

Important if True.

The striped bug is considered one of the greatest pests of the garden—devouring the melons, cucumbers, &c. Hundreds of expedients have been proposed to get rid of his striped lordship. We have tried every thing we have seen proposed, even to putting coal tar round the hills. Boxes with glass or muslin covers are too much trouble. The best thing we ever tried was a thin layer of cotton batting placed over the hills. This, however, is troublesome, as it is liable to get wet and lose the elasticity necessary to permit the growth of the plant. This season, however, accident has furnished us with an apparent safeguard against this insect fillibuster. The garden which we now occupy has been much neglected formerly, and the radishes were allowed to run to seed. From the seed dropped, volunteer plants have sprung up after the ground was planted with cucumbers and melons. We have taken no precaution to drive off the bugs, and we have wondered, when examening the plants, why "stripy" was not among them, as we had neglected to cultivate them until the radishes had grown up and attained some size. The mystery was solved, however, by coming across the following article in the Germantown *Telegraph*. If it should prove that the sowing of radish seed in cucumber and melon hills, is a specific against the depredations of the striped nuisance, it will be hailed with delight by all who have heretofore found that all their efforts to raise melons and cucumbers are frustrated by the "little villains." Q.

"In one of your late numbers there is an inquiry as to the use of your planting radish seed in the hills for water melons and canteloupes. They accomplish a threefold purpose. Firstly, by planting two or three dozen radish seed separately over a hill for melons, the striped bug is furnished with abundant food suited to its taste, and the melon plants are saved.—Secondly, the leaves of the radish afford shade to the ground whereby it is kept from "baking" after a rain, and therefore the melons grow faster. Thirdly, you have a good crop of nice radishes at a time when they are very acceptable.

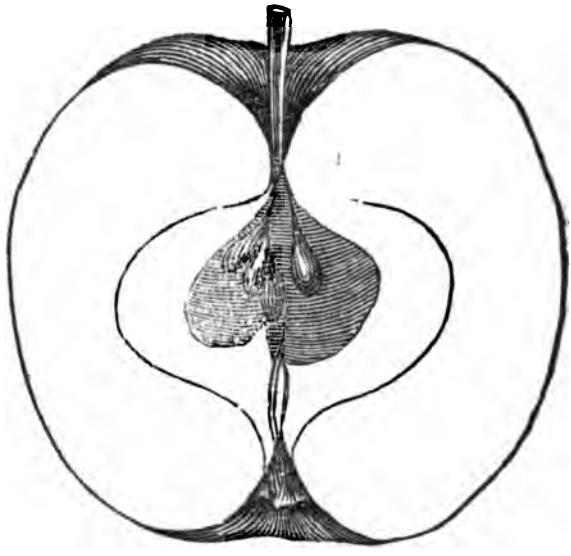
"Care must be taken not to remove the radishes for the mere purpose of giving sun to the young melons. The bugs will attack them at once if that course is taken.

"Last year two of my neighbors removed the radishes soon, as they were not fond of them, and in a few days the melon plants had entirely disappeared. Pull them out as they get large enough to eat, or when the vines begin to run; by that time the bugs are willing to let them alone, as they get too hard for their use."

A New Grape Enemy.—In 1860 we discovered among our grapes a destructive enemy which we had not heard of before—a dark green bug—which about the middle of May laid its eggs upon the leaf, and these eggs, by the latter part of the month, produced a slug, which preyed fearfully not only upon the leaf but upon the fruit blossoms. The leaves they would eat half up, and whenever they attacked the blossoms, there would not be much of them left. We have seen them almost buried in the blossoms, utterly destroying them. Thus far this season, however, they have been very few in number, and done no material damage, and

we belive the crop is pretty secure against them. We dislodged the bug by applications of whale-oil soap water, which destroyed those which it touched, and we believe kept others away. It also destroyed the slugs when they could be got at. We used a sponge to sprinkle with, as being better than a syringe, it wasting less of the solution, and requiring only one hand, while the other could be employed to turn up the vines, &c.

The crop of grapes in this region never promised a more abundant yield than it does now. We think there is twice the amount of embryo bunches upon our vines that we ever saw before. Beside all the vines wear an unusually vigorous appearance.—*Ger. Telegraph.*



Fameuse, (Synonym, Snow—Pomme de Neige.)

An apple tree that has been thoroughly tested, and found to withstand the climate: the extremes of heat and cold apparently not affecting it; is a treasure whose value is not too easily told, or searched out in Wisconsin soil. Such is the Fameuse—not found wanting in hardiness or productiveness—with a flavor, which to most, is delicious; and "good" enough, so that it can hardly be dispensed with by any. By a combination of such qualities, it has worked itself into public favor till it has become an exceedingly popular variety, and not in the least unworthily.

Origin, Canada: Found well adapted to Northern localities—either prairie or timber—bearing enormous crops of beautiful, fair fruit, regularly. Tree, spreading—shoots dark colored, moderate grower, and second size tree in the orchard. Elliott says, size medium; form roundish, somewhat flattened; color, greenish yellow, mostly overspread with pale and dark rich red; stem slender; cavity narrow; calyx small; basin, shallow, narrow; flesh remarkably white, tender, juicy, with a slight perfume; core, close, compact; seeds, light brown, long pointed. Season, October to January.

Here it matures a month earlier, forming a fall and early winter sort. All the trees of this variety which have come under our notice the present season, were fruiting well—and those in Judge Clark's orchard, in Sauk Co., were enormously loaded. In lime stone soils the fruit is often more than "medium." Samples have been exhibited which measured 9½ by 9¾ inches in circumference.

O. S. WILLEY.

MADISON, Wis.

Liquid Grafting-Wax.

Mr. L'Homme-Lefort (or, as others spell the name, *L'homme-Lefort*) invented, not many years ago, a grafting composition, which, when generally known, will, no doubt, supersede all others now in use, either for grafting purposes or for covering wounds of trees. It is very cheap, very easily prepared, and keeps, corked up in a bottle with a tolerably wide mouth, at least six months unaltered. It is laid on in as thin a coat as possible by means of a flat piece of wood. Within a few days it will be as hard as a stone. In addition to all the advantages indicated above, it is not in the least affected by the hot sun of our summers, nor by the severe cold of our winters; it never softens nor cracks when exposed to atmospheric action or changes. A single instance which came under my own observation, will suffice to show this clearly. In April last the bark of a double-flowering peach tree had been destroyed by some goats several days before I noticed the mischief. There was hardly a place as far up as the goats had been able to reach, where any bark was left; the few remaining particles were in no connection whatever; the wounds

were rough, and had already turned brown by an exposure so long continued. Although I despaired of the possibility of saving the tree, yet I determined to try it by an application of the fluid grafting wax of L'Homme-Lefort, which I had just purchased for the first time.

The result is surprising: The tree is as vigorous as ever, the wounds having healed over under the cover of the hardened grafting wax, which, after the lapse of so many months, sticks as firmly to the tree as if laid on a few days ago.

As long as the inventor kept the preparation secret, it was sold at very high prices. Even now it is unknown to many; I feel, therefore, induced to give the recipe, as follows:

Melt one pound of common rosin over a gentle fire. Add to it an ounce of beef tallow, and stir it well. Take it from the fire, let it cool down a little, and then mix with it a table spoonful of spirits of turpentine, and after that about seven ounces of very strong alcohol (95 per cent), to be had at any druggist's store.—The alcohol cools it down so rapidly that it will be necessary to put it again on the fire, stirring it constantly. Still the utmost care must be exercised to prevent the alcohol from getting inflamed. To avoid it, the best way is to remove the vessel from the fire when the lump that may have been formed, commences melting again. This must be continued till the whole is a homogeneous mass similar to honey.

After a few days' exposure to the atmosphere in a thin coat, it assumes a whitish color, and becomes as hard as stone, being impervious to water and air.

The editor of the *Horticulturist* adds: A good liquid grafting wax has long been a desideratum. We have seen the above as used by "Horticola," and are much pleased with it. It is better than the shellac preparation, and is much cheaper. It is an admirable preparation for covering wounds in trees.—*Cal. Farmer.*

SURFACE OF GARDENS.—In the fine surface soil of old gardens, the seeds of a multitude of plants, as well as many insects, or their *ova*, find a lodgment. In order to get rid of them effectually, it is a good plan to collect all the rubbish of the garden in the spring, together with the prunings from trees, and brush and weeds from pastures, and burn them on the ground. The limbs of the fir, spruce or hemlock, which many can command in any quantity, or indeed, any combustible material of little value otherwise, will answer as fuel for this purpose, and add also to the fertility of the soil by the ashes it leaves behind. But, of course, this can only be done on that portion of the garden where there are no perennial plants, unless the soil be scraped away into little heaps, burnt over and returned to its place. This would save a great amount of weeding, and destroy many insects—so that the operation may be found profitable in a great many cases.—*N. E. Farmer.*

How they raise Strawberries in Southern Illinois.

The following letter was read by Solon Robinson at a meeting of the American Institute in New York. It is written by Dr. Meeker of Southern Illinois. It details the manner in which strawberries are raised for Northern markets. We publish it in order that our farmers may know how easy it is to raise a crop which will prove more profitable than wheat, even if they are sold as low as six pence a quart. It is decidedly the best practical article we have seen on the subject, and although lengthy, we desire to place it before the readers of the FARMER, for the benefit of those who are seeking information on the subject. Q.

CAIRO, May 14, 1862.

Strawberries are very nice, and at this season of the year people eagerly listen to whatever is said about them, particularly if there is even a remote prospect of their getting any. Though they are mostly seen in cities, they are raised in the country; but country people seldom see them, and our farmers may be compared to the Spaniards of Old California, who had no idea that they lived in a land of gold. The longing of children and young persons, and even of men and women, for this fruit is general—some make journeys of miles in wagons or on foot, often to find scattering berries, or that they are all gone.

A town of 2,000 inhabitants will buy, annually, one hundred and fifty dollars worth of strawberries. There are, probably, 500 such towns in our country, and half as many towns much larger. There are at least a thousand farmers who would supply the want of these towns with strawberries if they knew how to raise them. I am going to tell them how. Five years ago I set out an acre of strawberries, and for three years I could not get enough for my family. The public shall have the benefit of my experience at the cost of this paper, while the cost to me has been more than I am willing to tell. Wealth and refinement are the fruits of long labors, of many disappointments, even of broken hearts. Our present world has grown out of the wreck and ruin of a former world. Let every one hasten, before he too lie in ruins, to impart what will be useful to others—what, to obtain, cost him more than, when young, he thought himself worth.

The Kinds to Raise.—For market purposes, and for distant shipments, no variety is equal to Wilson's Albany. For productiveness it far excels. It is sour, unless dead ripe, but people in cities have money and can buy sugar; besides, people who cannot tell scum from cream, are not likely to be particular, nor will they much care for anything but looks. Being

sour, it is not easily hurt by frost; and for size, hardiness, or weight, it is celebrated. For family use, the Hooker is superior, and it is nearly equal to the Wilson for other qualities, but for the first year, it requires more care.—Neither of these require any attention regarding sex. I doubt whether any berry, except the wild one, has the exquisite flavor of the Hooker. There are several new varieties, but except for family use, I doubt whether they are equal to either of these. Fine fruit is almost always soft. Some varieties are earlier by a few days, and only by a few days. During these few days, one can eat a great many strawberries in anticipation, and they are very good this way.

Garden Culture.—A garden is supposed to be well plowed; but never mind whether it is or not. Take your spade and dig up the ground as deep as you can, where you would have your strawberries, and make it fine. Plant in the Spring; but you can plant in June or July even, if you take great pains. For fear dry weather may follow planting, puddle the roots; that is, dip them in thick mud so as easily to make a lump or ball of moist earth around them. They will hardly grow when taken up with a solid lump around the roots. The way to take up the plants is to dig deep around them, bringing up all the roots you can; then, you shake out all the dirt, then puddle them (they can be transported far this way); and if they are set out immediately the roots will swell out, and little fibres will start in a few hours. When set out in April or May, in latitudes north of 40°, and if the ground is moist, little care is required; but if planted later, they should be put in holes, well watered, and covered with some litter to protect them from the sun.

Plant in rows, three feet apart, and from one to two feet in the row. Let the rows be ridges a foot high, because, by this means they will not wash the soft dirt around them and smother them, and because in Spring the water will settle in the furrows, and thence ascend to the roots, for no plant needs water more than the strawberry through the flowering and fruiting season. By this process you will have more and larger fruit than by the flat culture. I think the flat culture for any kind of fruit highly objectionable in many important points. During the Summer you may hoe them as often as you please. They certainly should be hoed just after picking, never while in blossom or bearing fruit. The more you hoe during the Summer, the more the weeds will grow, and this, with increased rapidity, as the season advances. If, however, the weeds should get a start of you, or should you become discouraged, do not think you will have no strawberries, but do this: when the weeds get ready to go to seed mow them down with a scythe, and late in the Fall, perhaps very early in the Spring, take a strong garden fork and slightly raise their roots. If you neglect this last direction you will not lose much. It is a good thing to put a little straw over them during the Winter; it is, perhaps, important if you have hoed them clean, but where the weeds have been mowed, these afford sufficient protection.

Having followed these directions, not in part, but wholly, you cannot fail to have a fine crop of strawberries. The plan now is, after picking, to thin them out to the original number, retaining the best plants, and thoroughly loosen the ground and start again with clean beds. Mind now, I am speaking only of the Wilson and Hooker plants, though other varieties are treated in the same way, but I have nothing to say about them.

If you should set out 200 good plants you will have all your family can use, let it be ever so rich in numbers; if you set out 500 plants you can give a good many to your neighbors; in which case you will have many visitors, some of whom you will be very glad to see, some of them you scarcely know, and some have let a long time pass since they called on you. If you have girls, their beau will pay them additional attention; if you have boys, you will be astonished to see how many girls they have taken a fancy to, or who have taken a fancy to them. You will find also there are very many sickly persons, far and near, on whose stomachs nothing will sit but strawberries. Beside all this, you will have become a gentleman and a man of taste; instead of hard stories being told about you, it will only be whispered that you are a little old or cross now and then, and everybody will think you the finest man in the neighborhood.

Field Culture.—For a next year's crop, take a piece of your own land, for your own land will always do better than rented land, and during the Summer plow it well once a month, and, if it is inclined to grass, harrow it thoroughly, so as to tear every sod to pieces. By plowing well I mean plow as if you would like to get down to the centre of the earth; plow as if you were a soldier in battle, and determined to conquer barbarism and crown freedom. But I should say, if it is clover land, don't touch it; grass you can kill, clover you cannot, and it will come up and ruin your plants. Here, in Southern Illinois, grass grows with reluctance, and I have seen a gentleman take a visitor over his lot to show him his grass, and occasionally both would be on their hands and knees. Sometimes they would see it. This is the kind of land for strawberries, and it is superior also for any other kind of fruit. Strawberries require a fair, I might say extra fair, soil. High land is better than low land, and hilly land is good. The very best is thin new land, or old worn out land well manured, with no clover seed in it. But let the soil be what it may, plow deep and often through the Summer. A very good way to raise strawberries is after an

extra crop of potatoes, which have been kept entirely clean through the Summer and Fall. All you will have to do with such ground will be to plow it up as early as you can in the Spring.

Suppose, now, every thing is ready, commence by throwing up ridges from 3 to 4 feet apart. Our ridges are a foot high—for this purpose I would take a yoke of cattle and the heaviest plow I had, get good plants, and set them on the ridges, 18 inches apart. Usually, they will bear enough the first year—that is, two months after planting, to pay you for all your labor. After picking, run between the rows with a flirting, one-horse-turning plow, throwing the dirt towards the plants. It will cover some of the runners, and all the better, for they will take root in the soft soil and grow finely. Plants set out in the Spring are worth double what they would be set out in the Fall; for they commence immediately to grow, they require no puddling or watering, and every one will grow. Set in the Fall, many of them are heaved out by freezing and thawing, and, being in their weak state, they are subject to all the various changes of the unfavorable Winter.

As regards the treatment now to be pursued there is a diversity of opinion. Those who are anxious to do great things, and who are determined to do them, will set the plants thickly, cut off all the runners as often as twice a week, and hoe well during the Summer and Fall. They are going to show how to raise strawberries. Very good. One faithful man can keep an acre clean; he cannot do more, and his labor is worth a hundred dollars. A quarter of an acre is as much as a single handed man, with other fruit to attend to, will be able to work; and even with only this amount, in nine times in ten, he will give up in despair before the season is through, and let the weeds grow. Having myself hoed them as much through the Summer as my strength and patience would permit, and having neglected to hoe at all, I have to say as the result of my experience, that hoeing does little or no good. Facts are what we want, not theories. I have over an acre of strawberries now in full bearing, and entirely free of weeds, into which I did not take a hoe all last season. I will grant that by hoeing you may show a limited number of fine plants; but after all, I can show as great a number of as good plants, where I do not hoe, and beside, have thousands of second and third-rate plants which will yield in the aggregate many bushels. Where plants are thick, it is impossible to hoe them. I come, then, to this conclusion, that I can raise as many strawberries without hoeing as I can with hoeing; if I wanted to boast, I would say double the number, and perhaps state nothing but the truth.

I have but to add to my directions, that after I go through the strawberries with the one-horse plow, I do nothing more till the weeds get ready to go to seed, when I take a strong scythe, mow them down, and leave them where they fall. It will be found there are few or no weeds where you last plow, and that what weeds there are, started mostly in the Spring. Fall weeds you will not see. It requires frequent hoeing and plowing to bring them up. I should greatly prefer, late in the Fall, to spread over them a light covering of straw, not so much for protection, for they will do well enough, as to furnish a clean bed for the berries, and, in particular to keep the ground moist, in case the Spring should be dry. From the benefits they receive from straw, and from the fact that so few apply it, I suspect that strawberries were successfully cultivated in remote ages, and hence that name. Virgil mentions strawberries, but they must have been wild ones. The Romans were not given to fruit-raising, nor are slaveholders any where. They had no cherries till Lucullus brought them from Asia. As for giving them what is called a mulching of straw, that is, so much that any part of it is to be removed in the Spring, I think it likely to do more harm than good.

During the Winter, get your baskets or boxes, and such side boxes and packages ready. We use here quart hoop boxes, some with covers, some not. I prefer covers. For pickers engage married women; if they are a little cross at home, so much the better, they will be more active. Handsome girls won't do, and children I would not have, for though they do well for an hour or so, they soon get so that they cannot work, being troubled with a kind of bloat. Active boys, twelve or fourteen years old, are very good, they do not bloat so bad.

As you go through the rows of scarlet richness, you will see the advantages of ridging; for, from the crest of the ridge down into the gutter, they are full; and where there are little precipices, see how thickly they hang over the edges! You will also see that in places where the ground is of a dead level, caused by washing, or other means, they are not so good; sometimes they do not bear at all. Whatever benefits arise from tile-drainage, are derived by ridging.

When you get through picking, come on with your heavy plow; tear through the ridges and make new ridges across the field; the old plants will send runners over the fresh earth, and the next Spring sees you with another crop. So, indefinitely, shall you raise strawberries; and as easily as you can corn.

Now, how much as everybody says who expects to pay or to receive money. Two hundred bushels are said to grow on an acre. Fifty bushels should content you. Still men come forward with, "So many feel this way, so many that, then so many quarts, consequently, so many bushels, hundred bushels to the acre." Farmers cannot always draw prizes. The great trouble with everybody is they have

drawn some blanks when they expected always to draw prizes. Failures run through the fruits of industry as much as streaks of lean do through pork. For instance, we here, who have from one acre to five acres of strawberries, each thought ourselves moderate in expecting a hundred bushels to the acre. It has not rained for four weeks. We may have fifty bushels—I think not so much. There is always something the matter, frosts, low prices, or something else. Nations and individuals are prosperous, not because they always are successful, but because they are not discouraged by reverses.

JOHN G. BERGEN—I believe that with us, flat culture is preferable to ridging, our land being sandy. The best practice is to set the plants after some hoed crop, and upon old land, the plants will stand for years. After thoroughly plowing and making the land mellow, mark it off as for corn, four feet by four feet, and set two plants in a hill, and keep the ground mellow by the plow and cultivation until the vines have run so as to prevent further work. It is better to tear up some of the runners, than it is to neglect the Summer cultivation.

We should not advise fall planting in this latitude; but this season should be used in preparation of the land for planting next spring. See that every weed is kept out of your corn field or potato patch, if you intend to set it with strawberry plants, and above all white clover should be exterminated. A single plant going to seed will prove a perfect nuisance. Q.

Elm and White Maple Seed.

We would call the attention of our readers to the fact, that the seeds of the White Maple, and of the Red Elm, are now dropping from the trees, and urge the importance of at once gathering the seed and planting it. If planted now, the seed will be up about as quick as corn, and make a growth of ten to twenty inches the present season. If not prepared to plant at present, or you wish to defer it to next spring, the seed should be gathered and mixed with fine loam or sand, and kept in a dry, cool place, until planting time. According to our observation, of some years back, the White Maple does not produce seed annually, but only biennially. Next year the trees will be barren of seed; hence the importance of gathering the present crop.

Both of these trees are admirably adapted to our rich, prairie soils, and are of rapid growth. A plantation of a few acres, would soon afford an abundance of fuel on every farm.

The seed of the White Maple is enveloped in a hard, brown covering, with a wing attached, which modifies the fall, allowing the wind to waft it to a considerable distance from the parent tree—a wonderfully wise provision of nature. The seed of the Red Elm will be easily recognized, from its striking similarity to the seed of the parsnip. There is no marked difference between the two, except in dimensions—the Elm seed being a half inch or more in diameter.—*Iowa Homestead.*

The White or Soft Maple trees in the Capitol Park and on our streets have borne seed profusely this season. We knew of no tree of its size and beauty, which grows so rapidly as the Soft Maple, hence we recommend its use as a shade tree, where a quick growth is desirable. Q.

MECHANICAL & COMMERCIAL.

Adobe as a Building Material.

During my residence in New Mexico, where everything is built of adobes (pronounced in three syllables) from the houses of the rich, to the garden wall of the poor, I have been particularly struck with the propriety of using them in Wisconsin in the erection of buildings. Their utility must be apparent to every one. They are cheaper than any other material, as they may be composed of any material, which when mixed with water, will make mud, and adhere together upon drying. Surface mould, and pure sand or gravel will not answer; but earth having considerable sand mixed with clayey loam is preferable to brick clay, not being as liable to crack while drying.

The New Mexican adobe maker chooses a place convenient to his water ditch, and as near the spot where they are to be used as may be, where he clears off a spot like a brick yard on which he is to spread out the new moulded adobe. On one side he will dig up a bed of the earth, which he will wet and work over with his hoe, adding a quantity of straw or grass cut to two or four inches in length. He next throws the mud into his moulding box with his hands, and empties it on the yard to dry. With no other tools except his hoe and moulding box, he will make each day 150 adobes, containing 1000 square inches, each; that is, he makes 150 sun dried bricks 20 inch-

es long, 10 inches wide, and 5 inches high, each equal to 12 and a half bricks, of the ordinary size, or 1875 common bricks in one day, or enough to lay up almost 87 square feet of wall. The adobes may be laid in less than one half the time that it would take to lay the bricks, and with one fifth part of the mortar. Any person may calculate the difference in the cost between 150 adobes made from the earth taken from the cellar where they are to be used, and 1875 bricks purchased at the brick-kiln miles away. I will only say that he will find his estimate, including the cost of laying up, at least four to one in favor of the adobe. So much for the economy.

But if they are three times as cheap, is there not some serious drawback in their use, sufficient to exclude them? The only objection I know of consists in the fact that they must be protected from the rains and moisture which arises from the ground. If a man would make use of them he must build a firm stone or brick foundation to receive them. Above that they may be used as filling up behind a brick or cobble stone face, or to a balloon clapboarded frame. Thus making the walls of any thickness desired to give strength to the structure. If they are well made, with plenty of straw and completely dried, they will stand as firmly as a stone wall, if the moisture is kept off.—They are a far poorer conductor of heat than brick, or lime mortar, being in this respect fully equal to wood itself, thereby making a wall through which the cold of winter or heat of summer will not penetrate. I have no idea that an adobe wall two feet thick would freeze through in the coldest winter in Wisconsin, and for the same reason there would be no heat in the wall in summer. The room in which I have spent the past winter, which was made of adobes, with a dirt floor, was so evenly tempered, that the thermometer, hanging upon the outer wall, would not vary five degrees during the coldest nights we experienced; and the doors and windows were far from being tight. The vapor in the air of the room never condensed upon the walls, thereby showing that they require no lathing before they are plastered, in order that they may always keep dry.

The advantages in the use of adobes may be thus summed up. By reason of their cheapness, men of limited means may construct their walls so much thicker, that the cold cannot penetrate into them, during winter, and thereby make a great saving of wood in winter. They are incombustible as brick, and as durable, if kept dry. I have seen adobe walls which were standing two hundred years ago in New Mexico, and they exhibited no signs of decay. They may be moulded of any desired form so as to expedite the construction of the building. They will make a building of much more equable temperature than any other material. The material for them can be found in almost every place, so that there need be no cost of transportation. Any common laborer can make them; and they will not be damaged by storms as much as are brick, if caught in a half dried state. They can be laid so as to make as even and perfect a wall as brick or stone.

In conclusion I will say, that I have no hesitancy in recommending them to persons of limited means, who desire to build a warm and cheap house. If others have any, they can easily satisfy themselves, by making a few by way of experiments. Examples on which they need not spend half an hour, will fully exhibit their qualities. A very pretty experiment might be tried in constructing a chicken house of adobes, 22 inch walls, with a door and windows on the south side, and the outer lining bricks set on their edge. If this were covered with earth resting on beams across the building, before the roof were put on to shed off the rain, it would add greatly to the comfort of its inhabitants, and for which they would pay in winter eggs. And it would fully test the building properties of the adobe.

J. G. KNAPP.

June 23, 1862.

"Nothing Like Leather."

During the past week we had a pleasant chat with G. W. Griffith, the energetic and intelligent proprietor of the Lyndon Station Tannery.

From him we learned some facts connected with his business that will interest our readers.

As a rule, the tanneries in the West, especially in this section, are idle. Not because there is no trade, for, as every farmer knows, hides are plenty and the demand for leather is large and constantly increasing, but because of the difficulty of procuring bark of the kind needed to make good leather. In this vicinity we have none, the quantity in the State is comparatively limited, and generally it is of poor quality. To avoid this difficulty many manufacturers have tried the, said to be, chemical substitutes for bark. The result has always been uncertain and unsatisfactory. Consequently Western tanners have been unable to compete with Eastern. The hides have to be sent there to be manufactured, then returned as leather, the western consumer paying to the east, not only the cost of manufacturing, but the cost of transportation both ways. The difference in cost, on the immense quantity used, is enormous, and if a tannery has been, or can be, established in this country and good leather made, its benefit and advantage to our people will be appreciated.

Fortunately science is equal to the wants of society. A vegetable substitute for bark has been discovered. The *sweet-fern*, with which the Lemonwier and Yellow river valleys are well supplied, has been demonstrated to be as good, if not better, than the best bark for tanning purposes. Mr. Griffith is an experienced tanner and currier, he knows the value of bark and has seen and used the many chemical substitutes that spoil hides oftener than make leather, and, after near two years trial, he prefers the sweet-fern to any and every substance yet used.

He has built up quite a business at Lyndon Station. His tannery there has been in operation something more than a year. He is manufacturing all the leather his establishment will give room for, but not a fractional part of that demanded. Here is a good chance for some one to build up a profitable and permanent business. One of our best shoemakers, a man who has used and bought and sold leather for many years, assures us that that made at the Lyndon Tannery is equal, if not superior, to the best bark tanned leather he ever used.

With such evidence we consider tanning with sweet-fern no longer an experiment but a decided success. Cannot the business be extended so as to supply this section with all the leather needed? Mr. Griffith will show his process to tanners who wish to learn. When, after fair trial, they become convinced that it is all that could be wished, he will expect them to pay for it. A tannery is needed here. It would pay well. Here is an opening for the successful establishemt of a home manufactory that should be improved. We know it would be well supported.—*Mauston Star.*

SCIENCE, ART, STATISTICS.

Salubrity of the Southern States.

Because of the natural anxieties of the numerous friends of our soldiers now in the South, in relation to their supposed exposure to a bad climate, we give the following extract from an article in the *Courier*, which, as it is the evidence of one who appears to know that whereof he speaks, has been extensively copied by the daily press; and we are confident that it will be received with emotions of grateful love and patriotism by our readers as affecting our national cause and its friends:

Be kind enough, sir, to allow a Southerner, who, having traversed the Southern States in all directions, and spent months in tents in the woods and mountains and plains of those States, is thoroughly acquainted with that country and climate, to give through the medium of your patriotic paper, a true statement of the sanitary condition of the Gulf States to be invaded by the heroic army of the Union.

The Southern States, especially the so-called cotton States, South Carolina, Georgia, Florida, Alabama, Mississippi and Louisiana, have, generally speaking, a beautiful, genial and salubrious climate. The winter is short and mild; it commences in December and lasts to the middle of February. Snow is very scarce, especially in the low country along the coast of the Atlantic ocean and the Gulf of Mexico. Ice appears only through a few nights of the season, and melts towards noon. Rain is frequent during the months of November and December. The spring is very short,—it commences in February and ends with March. In April, the summer heat sets in and lasts until the middle of October, interrupted at the end of September and October only by a few cool nights. The summer, although long, is seldom as hot and sultry as the few hot days in the Middle States and New England. The nights are generally cool and pleasant. Dews commence only to fall after midnight. Fogs are very scarce at any time during the year, and in some parts of the Southern States, as for instance, in lower Georgia, Alabama and Mississippi, nearly unheard of. Generally speaking, there is no healthier country of equal extent in the world than the Southern States. It is a fact, portions of it are unhealthy, and small parts of it extremely so; but the latter applies only to the swamps and rice-fields along the mouths of the rivers, most especially of the Waccamaw, Ashley, Cooper, Savannah, Ogeechee, Altamaha, Satilla and St. Mary's rivers on the Atlantic coast. The sickly portions of the Southern States are inconsiderable, and generally confined to the mouths of the rivers, the immediate vicinity of the water courses and some swamps in the interior, all of which can be easily avoided.

The sickly portions of the State of South

Carolina are confined to the months of the Waccamaw, Santee, Ashley and Cooper rivers, and to the rice-fields and swamps below the latter two rivers to the Savannah river. The islands on the coast of South Carolina, the towns of Beaufort and Bluffton are perfectly healthy. The city of Charleston is frequently visited by yellow fever, and unacclimatized foreigners are subject to very fatal bilious fevers, especially by a change from the city to the country, and *vice versa*. The interior of South Carolina, above the South Carolina Railroad, leading from Charleston to Augusta, Ga., is perfectly healthy, and as much so for Northerners as for Southerners.

The sickly part of Georgia is very unimportant, and mainly confined to the rice swamps along the Savannah, Ogeechee, Altamaha, Satalla, and the St. Mary's rivers, and to the vicinity of the Savannah river up to the city of Augusta. The cities of Savannah and Augusta are now and then visited by yellow fever, but, with the exception of this, the city of Savannah is one of the healthiest cities on the face of the globe, and its mortality is never as high as that of the Northern cities. From the year 1829 to the year 1852 Savannah was entirely free from yellow fever, but in and after the latter year it has been again, but not frequently subject to this disease. The interior of Georgia, especially the pine-barrens along the Atlantic Ocean and the line of Florida, and again the mountainous part above the railroad leading from Augusta to Atlanta, are perfectly healthy, as much so as any country in the world. Even the immediate surroundings of the large Ockefeenockee swamp in Ware Co., Georgia, on the line of Florida, are not unhealthy.

The State of Florida, with the exception of the vicinity of large water-courses and stagnant lakes, and its swamps and everglades, is perfectly healthy.

Alabama is generally a less healthy State than Georgia. Its most sickly portions are found around the Mobile Bay, and the lower parts of the Mobile and Alabama rivers. The yellow fever visits Mobile nearly as often as it does New Orleans, and ascends sometimes as high up as Montgomery, on the Alabama river, and Demopolis, in the fork of the Tombigbee and Black Warrior rivers, are besides favorable to intermittent fever. With this exception the State of Alabama is a healthy one, especially that part of it above the Tennessee river and around the spurs of the mountains which enter this State from the Tennessee and Georgia.

Again, the State of Mississippi is, generally speaking, a very healthy State. The only less healthy portions of it are the bottoms of the Mississippi river. The yellow fever ascends this river sometimes, but very seldom as high up as the city of Memphis, and infests Woodville, Natchez and Vicksburg. Sometimes it extends as far in the interior as Jackson, Brandon, Madison and Canton, but very rarely only. All other parts of the Mississippi are perfectly healthy, as much so as any northern country. Even the immediate bottoms of the Mississippi river impart only an intermittent fever, which is never fatal, easily cured, and affects the constitution much less than more northern countries.

The sickly portion of the State of Louisiana is confined to the lower part along the Mississippi river and the banks of the Red river. Other parts of the State are perfectly healthy. The yellow fever visits New Orleans nearly every year, from the middle of July (seldom if ever before) to the beginning of November, but not always in an epidemic or contagious form. After the first of July it is not safe for Northern or any other not acclimatized troops to remain in the city of New Orleans; they are in danger of being decimated by the dreadful disease, but they may then safely march out of New Orleans, and encamp about 25 or 30 miles above the city, on the uplands along the railroad leading to Jackson. They may be sure that the rebel army will not then retake the city, for the yellow fever is even more fatal to them than it is to the soldiers of the Union.

The above truthful statement will show that the Southern States are by no means an unhealthy, deadly country; if the sickly regions are avoided, our brave soldiers may march with perfect impunity, even in the middle of the summer, into the rebellious States and suppress this unholy rebellion. The climate, then, will not affect them any more than it does the rebel army, and indeed, even less so, for it is a confirmed experience that foreigners, during the first year, are less affected by the climate of the Southern States, even in the less healthy regions, than natives. The relatives of the brave fellows at home may dismiss any fear respecting the Southern climate.

There are insects which render the sojourn in warm climates during the summer disagreeable, and and among those in the Southern States are especially the mosquitoes, sand-flies and red-bugs; but the first are only troublesome along the water-courses and in the swamps; there are none, or very few, in the interior.—The sand-flies are only intolerable along the sea-coast, but can be expelled by smoke. The red-bugs, little red insects rarely visible by the naked eye, infest all the woods and are very troublesome to the careless invader; they penetrate the skin in large numbers and produce intolerable irritation, and sometimes a dangerous swelling; but they may be easily kept off by inserting pulverized camphor or sulphur in the shoes, and carrying pieces of sulphur in the pockets. Although subject to their attacks, I have in this way invariably kept them off in all my continued rambles and surveys in the Southern forests. X.

A Few Interesting Facts.

The celebrated leaning tower of Pisa is 815 feet in hight, and has an inclination from the perpendicular of twelve feet.

A ball of iron, weighing 1,000 pounds at the level of the sea, would be perceived to have lost two pounds of its weight if taken to the top of a mountain four miles high—a spring balance being used; the attraction of gravitation being less at the top of a mountain than at the level surface of the earth.

A thick piece of iron, weighing half an ounce, loses in water nearly one-eighth of its weight; but if it is hammered out into a plate or vessel of such a size that it occupies eight times as much space as before, it loses its whole weight in water, and will float, just sinking to the brim. If made twice as large, it will displace one ounce of water, consequently twice its own weight. Every substance becomes lighter in water, in proportion to the amount of water displaced by it.

The estimated force of gunpowder when exploded, is at least 14,150 lbs. on every square inch of surface which confines it.

The highest mountain in the world is 29,000 feet; to that hight M. Boussingault and Col. Hall clambered on the side of Chimborazo, on the Andes, the greatest elevation yet attained by man without leaving the surface in a balloon.

Madrid, the capital of Spain, is the highest of the European capitals; 200,000 people dwell at the elevation of 2,200 feet, on a naked desert plain, chilled by a biting breeze nine months of the year, and are baked the remaining three. The highest permanent resident in Europe is in the pass of Santa Maria—9,272 feet. In the Andes of South America, where a tropical temperature prevails, man dwells much more aloft than in Europe. Potosi, the highest city on the globe, on the celebrated metalliferous mountain, is 13,350 feet above the sea; and a post-house at Rumihuas is 15,540 feet, which is but a trifle below the peak of Mount Blanc, where mortal never stayed more than two hours.

The Far West.

The light-draught steamer Shreveport, Capt. John B. Labarge, left St. Louis on the 1st inst., bound for Fort Benton, the Falls of Missouri, and Washington Territory. She is to stop at Fort Benton until the Fall, giving her passengers time to cross the Rocky Mountains, and "prospect" in various directions. Some of them intend to establish a settlement in Bitter-Root Valley; others expect to visit the newly-discovered and highly-vaunted mines in Washington Territory, and perhaps proceed to those in British Columbia. There are some sixty or eighty of them in all, partly men of wealth; some of them veteran gold-miners of California; the machinery of a grist-mill and that of a saw-mill are among the freight. Provisions, supplies for the U. S. post at Fort Benton, Indian goods, fire arms, &c., are of course on the list. Capt. Labarge takes his family with him and a full crew, including ten mountaineers, who intend to stop in the country. The Emilie, Capt. J. Labarge, jr., will follow on the 8th inst. The distance by the river to the Falls of the Missouri must be nearer three thousand than two thousand miles from St. Louis.

The region of the Upper Missouri is destined to attract emigration directly after the close of the present war. It is far better timbered, better watered, and has a better soil, than the valleys of the Platte and Upper Arkansas; while its climate, owing to the influence of Pacific winds, is far milder than that of the Upper Mississippi. Gold and other minerals are being found at various points, and will soon attract crowds of adventurers. A new Territory on the Upper Missouri and Yellow Stone will doubtless be organized within the next five or six years.—*N. Y. Tribune.*

☞ The first steamboat on the Ohio river, says the Indianapolis *Journal*, was the Independence, in 1814. It had formerly been a large barge, that made several voyages from Cincinnati to New Orleans, consuming eight months in the downward and upward trip. A rudely constructed engine was put into her, and thus furnished and fitted up, the steamer Independence plowed the waters of the Ohio and Mississippi rivers. Arriving at New Orleans, General Jackson, commander of the American forces, pressed it into service, against the British; and, after the war of 1815, she began her upward trip, and arrived, after a voyage of four months, at Rising Sun, where she stopped for wood. John Jones, proprietor of the town, furnished her with fence rails for fuel, and agreed to take his pay in a passage to Cincinnati. He embarked, but such was the slow speed of the steamer, that when he got to North Bend he left the boat and walked to Cincinnati, arriving some twelve hours before the steamer.

☞ A letter from Palestine states that while the Prince of Wales was at Hebron (April 27) he and his suite obtained permission to visit the cave of Macpelah, Abraham's burial place. They are the first Christians who have been allowed to enter it since the crusaders, nearly seven hundred years ago. They report that everything is kept in the most beautiful order, and nothing could be more satisfactory than the state in which the tombs are preserved.—Abraham, Isaac, Jacob, Joseph, Sarah, Rebecca and Leah are buried there.

WAR MISCELLANY.

"List of the Killed."

Mothers who sit in dumb terror and dread,
Holding that terrible list,
Fearing to look lest you see 'mid the dead
The name of the boy you have kissed.

I pity you, sitting with face so white,
Striving to parry the blow;
I know how that name will torture your sight,
Can fathom the depths of your woe.

By the pang that rent my desolate heart,
By the crushing weight of despair,
I know how you, too, will shudder and start,
Reading that dear name there.

I know you'll crush that passionate cry,
Thinking of him as he lies,
With beautiful face upturned to the sky,
Death veiling the glorious eyes.

"Fighting he fell!" Does a feeling of pride
Lighten your grief as you think
How brave was the boy that went from your side,
How he would not falter or shrink!

The mother's love triumphs. Men call women weak,
Ah, well, perhaps it is so,
I know there are tears e'en now on my cheek,
For the boy that's lying so low.

I know that I start at each step on the stair,
With wistful glance turn toward the door,
Thinking, perchance, that my darling is there,
Peace, heart, he can come nevermore.

But still there's a thought that softens my woe,
Above there's a glorious list,
And one day I'll hear with rapturous glow
The name of the boy I have kissed.

How Men go into Battle.

How men go into battle, how they feel, how they fire or fight, are questions of deep interest just now. An army correspondent says:

You have often wondered, whether the men wear their overcoats, knapsack, haversacks, and carry their blankets, when going into battle. That depends upon circumstances. Sometimes, when they are marching, they find themselves in battle almost before they know it. I remember that on the 8th of July, three days before the battle of Bull Run, some regiments of the army were marching toward Mitchell's Ford, a fording place on Bull Run, when suddenly the enemy fired upon them, and the men had to fight just as they were, only a great many threw down their coats and blankets and haversacks, so that they could fight freely and easily. You also wonder whether the regiments fire regularly in volleys, or whether each man loads and fires as fast as he can. That also depends upon circumstances, but usually, except when the enemy is near at hand, the regiments fire only at the command of their officers. You hear a drop, drop, drop, as a few of the skirmishers fire, followed by rattle and roll, which sounds like the falling of a building, just as some of you have heard the brick walls tumble at a great fire.

Sometimes, when a body of the enemy's cavalry are sweeping down upon a regiment to cut it to pieces, the men form in a square, with the officers and musicians in the center. The front rank stands with bayonets charged, while the second rank fires as fast as it can. Sometimes they form in four ranks deep—the two front ones kneeling, with their bayonets charged, so that if the enemy should come upon them, they would run against a picket-fence of bayonets. When they form in this way the other two ranks load and fire as fast as they can. Then the roar is terrific, and many a horse and his rider goes down before the terrible storm of iron hail.

Barbarism of the Rebels.—The correspondent of the *Chicago Journal*, five miles north of the crossing of the Little Red River, Ark., on the Des Arc Road, May 23, speaking of a company belonging to Gen. Osterhaus, whose Division was in advance of the army at that point, which was sent out as a picket to protect a foraging party, says:

"They were attacked by a band of between five and six hundred Rebels, and before they could be reinforced by the others, the whole of them were either killed or wounded, except one man. Seven or eight were killed at the first fire, and eight more of the wounded were either shot, stabbed, or their throts cut, after they were entirely helpless from wounds, and in many cases had asked for mercy, but were told that they neither asked nor gave any quarter. This was done very speedily, the Rebels carrying off their wounded with them. As soon as this was known in camp, a surgeon and ambulances were sent out to take care of the wounded men, and next morning the surgeon was found hung to a tree, and literally hacked to pieces by sabers. But this chapter of barbarian atrocities is not quite full. The Drum Major of the 17th Missouri, who had for some reason accompanied the expedition, was found murdered, and his ears cut off close to his head, and his tongue cut by the roots.

COMMODORE SAMUEL F. DUPONT,
COMMANDING THE EXPEDITION TO PORT ROYAL.

Commodore Samuel F. Dupont.

The commander of the naval forces of the Great Southern Expedition is a native of the State of New Jersey, but received his appointment into the navy from the State of Delaware, of which he is a citizen, on the 19th of December, 1815. He has been, therefore, nearly forty-six years in the service, and his forty-sixth anniversary brings him more glory and raises him higher in the estimation of the people, both at home and abroad, than all the previous ones. Commodore Dupont has spent nearly twenty-two years on sea, eight and a half years in active duty on shore, and the balance of his time has been unemployed. His present commission bears date September 14, 1855. He was last at sea in May, 1859, and since that time he has been commandant of the Navy Yard at Philadelphia, where his kindness of manner, together with his strict discipline, won for him many friends. Among the important positions that Commodore Dupont has filled since he has been in the navy, are the following:

In June, 1836, Commodore Dupont—then a lieutenant—commanded the Warren, now the storeship stationed at Panama, N. G., that was attached to the squadron of Commodore A. J. Dallas, cruising in the West Indies.

In Dec., 1843, he commanded the U. S. brig Perry, while on the way to Rio de Janeiro, bound to the West Indies.

In October, 1845, he also commanded the frigate Congress. She was at that time flagship of Commodore Robert F. Stockton, and was carrying out Mr. Ten Eyck, U. S. Commissioner to the Sandwich Islands, and also Mr. Surrell, United States Consul to the Sandwich Islands. In July, 1846, he was commander of the sloop-of-war Cyane, at the time attached to the squadron of Commodores W. B. Shubrick and Thomas A. C. Jones, in the Pacific. He held other important posts, but these are the only ones that we can recall to our memory at the present time.

Commodore Dupont is one who, though past what is usually termed the prime of life, is yet possessed of all the vigor, bodily strength, and ambition which usually characterize younger men, and these qualities, joined to his experience, pronounce him to be the man we need. In his personal appearance the Commodore is a person that would at once attract attention, having all the easy grace of a finished gentleman, together with a commanding look that betokens perseverance and a determination to successfully carry out any undertaking that he may be engaged in.

Commodore Dupont, in command of the largest fleet ever seen in American waters, gave his broad pennant to the breeze from the United States ship Wabash, with Gen. Sherman in command of the land forces on board transports, and set sail from Fortress Monroe, under secret orders, for Port Royal, South Carolina, about the 25th of October last. The fleet, which consisted of about fifty vessels, was subjected, for three days and nights, to one of the most terrific gales which has visited our coasts within the past thirty years; but, surprising as it may seem, only two transports were lost. The foremost ships of the fleet reached the mouth of Port Royal on the 2d November, and on the 7th fifteen ships and gunboats opened fire on the forts Walker and Beauregard, and after five hours' cannonading, the rebel flag came down, and its defenders fled with the most undignified precipitation, leaving camp furniture, clothing, watches, money, letters, food half cooked, and meals half eaten.

This is regarded as one of the most brilliant naval victories the world has known. The fact of ships approaching within five hundred yards of powerful land batteries, composed of columbiads and rifled cannon of the most powerful description, was a feat of successful and audacious bravery which will astonish the world. It is really wonderful that only eight men were lost on board the fleet, and, with the exception of the burning of one gunboat, no vessel was disabled; while in the forts a perfect shower of bursting shells was poured from the fleet. Beaufort, a beautiful village of several thousand inhabitants, and a place of summer resort, was deserted, except by the colored people, who refused to follow the fortunes of their fleeing masters.—*Amer. Phrenological Journal.*

☞ Col. Ellett, in command of the Ram Fleet at Memphis, is the Charles D. Ellett, Civil Engineer, whose pamphlets criticising General McClellan and urging the construction of the steam rams and iron-clad vessels some time ago, gained him considerable notoriety.

☞ Col. Geo. F. Shepley of Maine, who is at present Military Commandant of N. O., has upon the recommendation of Gen. Butler, been appointed Military Governor of Louisiana.

YOUTH'S CORNER.

Capture and Trial of Master Mousey.

BY MRS. HUNT.

[PART SECOND.]

His Trial by a Jury of all the Children.

From raging waves, so milky white,
We dragged him forth, and held him tight.

Then wiping dry his dripping skin,
We brought a cage and popped him in.

All gathering round then looked at mouse
Peeping from out his little house.

No one of us could claim the prize,
Now caught and caged before our eyes.

Gravely we thought, and questioned long,
To whom Sir Mousey might belong.

All hands had grabbed, all feet pursued,
While every eye the chase had viewed.

All wanted him, so sleek and brown,
The bravest mouse about the town.

But then no one had caught him, quite,
But pan of milk, so snowy white.

As round his cage poor mousey ran,
We sat and talked of all our fun.

How grand the chase! How hotly pressed!
Yet none could tell who did the best.

Some were a-mind to let him go;
But others said "No, no! oh, no!"

To try his case, and judge him there,
All were agreed would be but fair.

So up spoke one, and said that he,
Against the mouse, would witness be;

That oftentimes whole troops of mice
Would eat into great bags of rice;

Would spoil the sugar, gnaw the cheese
In spite of bolts, and locks, and keys;

Their Christmas pies and sugar plums
Were often left a heap of crumbs;

He *hated* all the nibbling race,
And looked at mouse with scowling face.

Another said, though all amiss,
They did much more, and worse than this;

That not content *such* things to eat,
They ate the stockings off his feet!

The red and white once Grand-ma knit,
So soft and warm, so nicely fit,

One winter night, hung up to dry,
Were nibbled so he could not cry.

In sister Mary's nice blue hood
They nested—a whole neighborhood!

Not long before, one, brown and big,
Had dragged away Grandfather's wig.

Such things, he said, should not be done
By any mouse beneath the sun.

A third then told how many a night,
When shut the doors, and dim the light,

When all the world should be asleep
Around his bed the mice would creep;

Or chasing there, so loudly squeak
He was afraid to stir, or speak.

Sometimes, he said, they nibbled so
He thought they had his very toe;

Had waked him off from happy dream
And scared him so he'd kick and scream.

He said they were a wicked race,
That had no right to life, or place.

But others said, as all should think,
That mouse *had* right to eat and drink;

To Christmas pies and sugar plums;
To milk, and cheese, and buttered crumbs.

If no one feeds him, mousey, too,
Must do his best, as people do.

And as for stockings, hoods and wigs,
How could mouse tell such things from figs?

He could not know, as girls and boys,
The use of clothes and children's toys.

He loved to live, and had a right
To food by day and bed by night;

Or, if he chose, to race about
When doors were shut, and lights all out;

Just as we love to romp and run;
To laugh, and sing, and have our fun.

All this, and more, by all was said
Why mouse should be alive or dead.

And all the while, in fear and doubt,
Our little prisoner raced about,

Trying each wire, but trying in vain,
His liberty once more to gain;

And looked at us as if he said
"You are bigger than I, and five instead,

"And if I were out, and you were in it,
I'd open the cage this very minute."

How bright his eyes! how sleek his skin!
How pink his toes! his tail how slim!

All wanted him, but all agree
So brave a mouse should be set free.

Then better far than in the chase,
Each with bright eyes and happy face,

We s'eed awhile around his house
And threw him crumbs and said "Good mouse!"

And said, "You mouse, long-tailed and brown,
Now *would n't* you like to be out in town?"

And said, "Poor fellow! you *shall* go;"
Then opened the cage, and let him go.

Thus ended all our morning's fun,
As off he scampered, home we run.

The Hare.

There are two varieties of hares in Wisconsin: The Grey Rabbit, (Lepus Sylvaticus), and the Varying Hare, or White Rabbit, (Lepus Americanus.) The Grey Rabbit, (which is the most common in the southern portion of the State) when full grown, is about sixteen inches long; color, above, yellowish grey mixed with brown; below, whitish.

The White Rabbit is considerably larger than the Grey Rabbit: color, in summer, reddish brown above, and white beneath. In winter, its color changes to white, except a portion of the ears which remain dark. Rabbits have large eyes; ears large and long; tails very short, and curved upward. The feet are entirely covered with hair. The fore legs are short and weak, the hind ones long and muscular, which gives them great strength. Rabbits always travel by making leaps or bounds; sometimes clearing as much as twelve or fifteen feet at a bound; but they usually make short jumps, of from one to two feet.

They never trot, like a dog or a fox; nor do they move by a regular walk; always moving their hind feet both at a time. When running, they place their feet in a very singular position; making tracks which appear as though they ran backward; the fore feet being put down close together; sometimes so near as to make only one track; while the hind feet are spread far apart, and are put down so as to track forward of those made by the fore feet. Rabbits are crepuscular; that is, they move about to obtain food or for amusement, in the twilight. In the day time, unless disturbed, they usually remain quiet, in some thicket, or by the side of an old log, or a brush heap. In very cold and stormy weather, they sometimes take refuge in some hollow log or tree; seldom going into holes in the grounds. The White Rabbit seems to avoid the habitation of man, but the Grey Rabbit rather prefers the vicinity of improvements. When unmolested, it will become quite tame. Several years ago a number of them made their abode in a hay-stack. They cut a passage entirely through the stack, and near the centre, made a burrow nearly as

large as a bushel basket. In the evening they would come out into the garden and door-yard, where I placed cabbage and turnips for them to eat. In a short time they became so tame as to come and sit on the door-steps, and if any one went out, they would not seem to be frightened; merely moving a short distance. It was very amusing to watch them while eating, or playing about. But after awhile, they became mischievous. Before I was aware that they were anything more than harmless, innocent little creatures, they had gnawed the bark from a large number of choice pear and plum trees, entirely girdling them. So I became their enemy, and declared war. In the evening, when they came into the yard, I stood, with gun in hand, ready to take summary vengeance. I killed two at the first fire, and there were three left. I reloaded and shot another, when the other two scampered off. The next evening, I killed one of the two, and the other seceded from the premises. The Grey Rabbit does not have any nest or bed; nor does it appear to ever lie down, like squirrels, and other animals of that class; although the female makes a nest for her young, which is always in some place, convenient to food, and consists of leaves and grass, and sometimes a portion of fur from her own body, and is generally in a slight hollow. In this, the young, usually four in number, remain till they are capable of taking care of themselves. Whenever the old one leaves her young ones, while in the nest, she carefully covers them, so that they are entirely concealed. The rabbit evinces much cunning and ingenuity in eluding the pursuit of a dog; that is, it shows or acts out a good deal of dexterity and ability in escaping or keeping away from a dog. It will turn suddenly aside and stop and wait till the dog passes, when it will return to its track, which it will follow back for some distance, and then again turn off as at first, usually taking an elevated position, sometimes upon a log. Sometimes it will sit erect like a woodchuck, or a bear, so as to have a better view. And sometimes it will pass through shallow ponds of water. When closely pursued, it will sometimes escape by going into a hollow log, or a hollow tree, where it may be easily caught, by cutting a hole, or by punching with a stick, or, it may be "smoked out."

Rabbits do not bite, nor in any way defend themselves. They do not have any "call," or make any vocal sound, except when in distress, they sometimes make a sharp, plaintive, wailing cry. The rabbit has several natural enemies, such as foxes, wild-cats, weasels, hawks and owls. Probably the owls are the most destructive on account of being like the rabbit, of crepuscular habits, which gives them a good opportunity to secure them for their prey. In the winter, rabbits may be easily caught in almost any kind of trap, when baited with any of the below mentioned vegetables. When taken young, they are easily tamed, and make nice pets. They may be fed with clover, cabbage, turnip, carrot, parsnip, &c., and they are particularly fond of sweet apples, and they will eat milk. UNCLE WILLIAM.

Geology.

A PEEP BEHIND THE CURTAIN.—NO. 2.

Here is a piece of Iron Pyrites, (*Py-ri-tes*) which is sulphuret of iron, crystalized or formed in the shape of crystals. Sulphuret of iron, is a mixture of sulphur and iron. These crystals look like blades or spears of shining steel; sometimes the crystals look like particles of gold, the resemblance being so perfect as to deceive those not acquainted with minerals, and cause them to secure it supposing it to be gold. On account of ignorant persons being deceived so much with it, it has quite properly been called "*Fools Gold.*" But these two minerals can easily be distinguished, gold always being soft, while the other is always hard, sometimes so hard and solid as to strike fire with steel. I know a lady who has a piece of iron pyrites which she considers very valuable, when in reality it is not worth much of anything except as a specimen. The sulphuret of iron is so abundant in some places, that it is used to manufacture sulphur, by seperating the sulphur from the iron. When exposed to the air and weather, for a long time, it undergoes a chemical change which produces or forms other substances from which alum is manufactured. UNCLE WILLIAM.

HEALTH AND DISEASE.

The Best Bed.

Of the eight pounds which a man eats and drinks in a day, it is thought that not less than five pounds leaves his body through the skin. And of these five pounds of considerable percentage escapes during the night, while he is in bed. The larger part of this is water; but in addition, there is much effete and poisonous matter. This being in great part gaseous in form, permeates every part of the bed. Thus, all parts of the bed, mattress, blankets, as well as sheets, soon become foul, and need purification. The mattress needs this renovation quite as much as the sheets.

To allow the sheets to be used without washing or changing, three or six months, would be regarded as bad housekeeping; but I insist, if a thin sheet can absorb enough of the poisonous excretions of the body to make it unfit for use in a few days, a thick mattress which can absorb and retain a thousand times as much of these poisonous excretions, needs to be purified as often certainly as once in three months.

A sheet can be washed; a mattress cannot be renovated in this way. Indeed there is no other way of cleansing a mattress but by steaming it, or picking it to pieces, and thus in fragments exposing it to the direct rays of the sun. As these processes are scarcely practicable, with any of the ordinary mattresses, I am decidedly of the opinion that the good old-fashioned straw bed, which can every three months be changed for fresh straw, and the tick be washed, is the sweetest and healthiest of beds.

If, in the winter season, the porousness of the straw bed makes it a little uncomfortable, spread over it a comforter, or two woolen blankets which should be washed as often as every two weeks. With this arrangement, if you wash all the bed covering as often as once in two or three weeks, you will have a delightful, healthy bed.

Now, if you leave the bed to air, with open windows during the day and not make it up for the night before evening, you will have added greatly to the sweetness of your rest, and in consequence to the tone of your health.

Air, Sunshine and Health.

H., New York merchant, noticed, in the progress of years that each successive bookkeeper gradually lost his health and finally died of consumption, however vigorous and robust he was on entering his service. At length it occurred to him that the little rear room where the books were kept opened in a back yard, and was so surrounded by high walls that no sunshine came into it from one year's end to another. An upper room, well lighted, was immediately prepared, and his clerks had uniform good health ever after. A familiar case to general readers is derived from medical works, where an entire English family became ill, and all remedies seemed to fail of their usual results, when accidentally, a window in the family room was broken in cold weather. It was not repaired, and forthwith there was a marked improvement in the health of the inmates. The physician at once traced the connection, discontinued his medicines, and ordered that the window-pane should not be replaced. A French lady became ill. The most eminent physicians of her time were called in, but failed to restore her. At length Dupeytren, the Napoleon of physic, was consulted. He noticed that she lived in a dim room, into which the sun never shone; the house being situated in one of the narrowest streets, or rather lanes of Paris. He at once ordered more air and cheerful apartments, and all her complaints vanished. The lungs of a dog become tuberculated (consumptive) in a few weeks, if kept confined in a dark cellar. The most common plant grows spindly, pale and scraggling, if no sunlight falls upon it.—The greatest medical names in France, of the last century, regarded sunshine and pure air as equal agents in restoring and maintaining health. From these facts, which cannot be disputed, the most common mind should conclude that cellars, and rooms on the northern side of buildings, or apartments into which the sun does not immediately shine, should never be occupied as family rooms or chambers, or as libraries or studies. Such apartments are only fit for stowage, or purposes which never require persons to remain in them over a few minutes at a time. And every intelligent and humane parent will arrange that the family room and chambers shall be the most commodious, lightest and brightest apartments in his dwelling.—*Hall's Journal of Health.*

DOMESTIC ECONOMY.

Eschew Corks for Closing Preserve Bottles.

For the preservation of all kinds of fruits, use glass bottles or jars. They are cleaner, more durable, more costly at first, but cheaper in the end, than tin, and transparent. Select those of even thickness, or rather of even *thinness*, for they are often exposed to considerable heat, and while they should not be so thin as to break in common handling, or burst from internal pressure caused by fermentation, still they should not be thick, or of pressed glass, when blown glass jars can be readily obtained. So much for the bottles. Now as to closing them air-tight. 1st, corks will not do it. The very structure of the substance is against it, unless cork of the most velvety character is obtained, and this is costly. We have in previous volumes recommended waxed cloth tied

over the jar as a substitute at once cheap and effective, and have never found anything superior to it. Prepare the cloth in this way: Melt together some rosin, beeswax and tallow in equal parts; tear the cloth in strips four inches wide, or at least wide enough conveniently to tie over the mouth of the jar, and dip these strips, drawing them through the hot wax and stripping nearly all the wax off. With cloth thus prepared, after the jar is filled with hot preserves, and while still hot, close the mouth and bind it on with good linen cord.—Then with shears trim off as much of the waxed cloth as is desirable, and then dip it in some melted wax, which should be made with only about half as much tallow. Sealing wax may be used instead if desired. The jars should be put where the wax will cool at once, so that the exhaustion caused by the cooling of the preserves and the condensation of the steam, may not cause the wax to run through the cloth. Nothing can be more thoroughly air-tight than bottles so prepared.—*Homestead.*

An Improved Whitewash.

Take half a bushel of nice, unslaked lime, slake it with water, covering it during the process, to keep in the steam. Strain the liquor through a small seive or strainer, and add to it a peck of clean salt, previously well dissolved in warm water; three pounds of ground rice, mixed to a thin paste, and stirred in boiling hot; half a pound of powdered Spanish whiting, and a pound of clean glue, which has been previously dissolved by first soaking it well and then hanging it over a slow fire, in a small kettle within a larger one, filled with water. Add five gallons of hot water to the whole mixture, stir it well, and let it stand a few days covered from the dirt. It should be put on quite hot; for this purpose it can be kept in a kettle on a portable furnace.

It is said that about one pint of this mixture will cover a square yard upon the outside of a house, if properly applied. Brushes more or less fine, may be used, according to the neatness of the job required. It retains its brilliance for many years. There is nothing of the kind that will compare with it, either for outside or inside walls. Coloring matter may be put in, and made of any shade you like.—Spanish brown, stirred in, will make a red or pink, more or less deep, according to quantity. A delicate tinge of this is very pretty for inside walls. Finely pulverized common clay, well mixed with Spanish brown before it is stirred into the mixture, makes it a lilac color. Lampblack, in moderate quantities, makes a slate color, very suitable for the outside of building. Yellow ochre stirred in makes a yellow wash; but chrome goes further, and makes a prettier color. It would be best to experiment on a shingle and let it dry.

I am told green must not be mixed with lime; the lime destroys the color, and the color has an effect on the whitewash which makes it crack and peel. When walls have been badly smoked, and you wish to have them a clean white, it is well to squeeze indigo plentifully through a bag into the water you use before it is stirred into the whole mixture. If a larger quantity than five gallons is wanted, the same proportions should be observed.—*Rural New Yorker.*

Care of Carpets.

When carpets are taken up, be careful in removing the tacks, so that the edges of the carpet are not torn, then roll up the carpets with the upper part inside, and carry them away to be beaten. As soon as the carpets are removed, throw a few old tea leaves, not too wet, over the floor, sweep the room out, and afterwards wash the boards with a wet flannel, but be careful not to throw too much water about, as it is liable to injure the ceilings of the rooms below.

While the floor is drying, beat the carpets, by hanging them over a stout line and beating them, first on one side and then on the other, with a long smooth stick. After the carpet is beaten, it may be dragged over a lawn or else brushed on both sides with a carpet broom. If faded or greasy in many parts, an ox gall mixed with a pailful of cold water, or a little grated raw potato and cold water, mixed together and sponged over the places, and then wiped dry with soft cloths, will make them look clean and bright.

If there are any appearances of moths in carpets, when they are taken up, sprinkle tobacco or black pepper on the floor before the carpets are put down, and let it remain after they are laid down.

Straw matting, laid under carpets, makes them last much longer than straw; as it is smooth and even, and the dust sifts through it. Slips of paper should always be placed over the edges of the stairs under the carpet. This will diminish the friction between the carpet and the boards underneath. The strips should be in length within an inch or two of the width of the carpets, and four or five inches in breadth, as convenient. This simple expedient will preserve the carpet half as long again as it would last without the strips.

WIT AND WISDOM.

—When may a chair be said to dislike you? When it can't bear you.

—The pebbles in our path weary us and make us foot-sore more than the rocks.

—"Bob. how is your sweetheart getting along?" "Pretty well, I guess, she says I needn't come any more.

— Ties of choice are closer than that of blood unless the hearts are kindred as well as the bodies.

— By constantly doing good, you can put the envious to such torture as you might enjoy if you had the malice of a fiend.

— The Rebels, at the approach of the Union troops, make deserts of their cities and fields. Even their forts, if not deserts are deserted.

— A lady in this village proposes to go into insolvency, as she owes so many calls that she sees no other way to liquidate her obligations.

— We make sad mistakes, but there is goodness hived, like wild honey, in strange nooks and corners of the world.

— "O, mother! do send for the doctor!" said a little boy of three years. "What for my dear?" "Why, there's a gentleman in the parlor who says he'll die if Jane don't marry him—and Jane says she won't!"

— It is said that when a Frenchman has to wait he smokes; a German meditates; an Italian sleeps; an Englishman takes a walk; an American invents some new contortion of his limbs, and tries to put his feet higher than ever.

— A poor Frenchman, whose wife aroused him from sleep with the cry, "Get up, Baptiste, there is a robber in the house," answered sensibly, "Don't let us molest him. Let him explore the house awhile, and if he should find anything of value we will take it away from him."

— About the coolest piece of impudence of which we have heard lately is that of a young Rebel Captain taken prisoner at Williamsburg, who condescended to express his gratification after Hancock's charge, that *at last* he had found "foemen worthy of his steel." He might have found them before if he hadn't ran so fast.

— Alonzo was taken to church for the first time. The services has not begun. Deacon Wells, a bald-headed man, came in; Alonzo looked at him curiously. Mr. Ostrom came down the aisle, and he had no hair where the hair ought to grow. Alonzo was fidgety.—Squire Jones, as bald as Mont Blanc, walked in, and Alonzo could hold in no longer. In a clear, ringing little voice, he cried: "Oh, ma, ma, there comes another man with a skinned-head!"

— A Spaniard sent his son to the University of Salamanca, and told him to study economy, and to eat beef rather than poultry. On arriving, the young gentleman asked the price of crows.

"About twenty dollars."

"And partridges?"

"Twenty-five cents."

"I must live on partridges," said he, "they are decidedly the cheapest of the two."

THE WOOL MARKET.

MILWAUKEE, June 21.—Wool has been coming in pretty freely this week. Prices range from 35c to 40c for ¾ to full blood. The condition in which the wool finds the market is generally very good, and there seems to be no backwardness in selling at the price.—*Daily Life.*

JANESVILLE, June 25.—Wool is beginning to come forward quite freely, and we notice that buyers are starting in at round prices. There were several sales to-day at a range of 30@37½c, and one lot of choice sold at 40c per lb. The tendency seems to be upward, and the probability is that large lots of choice wool will sell at 37½c and upwards.—*Gazette.*

CHICAGO, June 27.—Sales of 1,500 lbs. Summit Farm unwashed, about ½ Merino and ¾ South Down at 28½c. The same wool last year brought only 19½c. We quote common native at 25@30c; medium 30@35c; fine 35@40c; unwashed ⅓ off.—*Tribune.*

MICHIGAN.—At Kalamazoo, on the 24th, the best clips went freely at 50c. At Decatur, 4,000 lbs. at 30@45c. At iles, the highest price paid was 48c, and the lowest 30c. At Adrian, on the 23d, 600 lbs. of Iowa wool was sold at 46c, of which the *Watchtower* says it is "probably a saving of $50.00@$60.00." At Ann Arbor, 700 lbs. were sold at 45c—good Spanish wool. At Hillsdale, 43@47c was paid, and 50c for extra lots. At Pontiac, 46@49c was the range.—*Chicago Tribune.*

NEW YORK, June 19.—Market is quite animated this week. Domestic wool is in good request and large sales have been made on private terms—no new wools have yet arrived—50,000 lbs. pulled, superfine and extra have been taken at the following prices: Saxony fleece, 50@52c; American full blood Merino, 48@50c; ½ and ¾ blood, 45@47c; American native and ¼ blood, 42@44c; extra pulled, 45@50c; superfine pulled, 46@47c; No. 1 pulled 34@35c.

ALBANY, June 19.—Street sales of new clip are more free; 3,000 lbs. sold at a range of 36@43c per lb.

BOSTON, June 19.—There is a firm and buoyant feeling in the market for all desirable grades both domestic and foreign. Saxony and Merino fine, 47@49c; full blood, 46@47c; ½ and ¾ blood, 43@46c; common, 41@43c; pulled extra, 46@55c; western mixed, 35@43c; Canada, 40@44c.

CINCINNATI, June 19.—No disposition to sell. Prices range from 33 to 42c. The latter for fancy clips.

TORONTO, June 20.—The prices ruling to-day are 34c per lb.

EDITORIAL MISCELLANY.

☞ All communications, of whatever kind, intended ☞ for the EDITOR *should be addressed to him exclusively; all remittances of money and* all ☞ *business letters, to the Publishers.* The offices ☞ are separate and distinct, and attention to this ☞ request will save the Editor a great deal of time ☞ and trouble, while at the same time, it will diminish the liability to mistakes.

State Fair.—We are often asked if there is to be a State Fair this fall. We can only say in reply, that we believe it to be the intention of the Officers of the Society to hold a Fair, should nothing transpire to prevent. Due notice will be given in the FARMER and the local papers in each county in season to allow exhibitors time for preparation.

Notes of Travel.—The past month spent in the eastern part of the State has been fraught with no little of pleasant experience. A general hospitality has always been shown us, and a cordial co-operation in extending the patronage of the FARMER. We have met with many sterling men who seemed to have a lively appreciation of the value of a paper devoted to the agricultural interests of the North-West. To the assistance of these men, whose leisure we have appropriated, are we indebted for what success resulted to our labors. Omitting what might be said of the weather, we pass to some incidents of travel, the details of which may or may not be interesting to the general reader.

First in order of time which we desire to mention is the visit which we recently made to the place of John P. Roe, Muskego, Waukesha Co. During a brief stay with this gentleman, we had an opportunity of looking over his fine herd of Durhams. Nothing pleases us more than to see good stock; and here was an opportunity, rarely to be met with in our State. For several years Mr. Roe has given his attention largely to importing and breeding pure stock; and, judging from the handsome specimens of the bovine species, "plump and sleek" which met our eye in the "green pasture" near, we should say that his success was an established fact. Credit is eminently due this enterprising gentleman for his efforts to improve the stock of our State.

Passing hence to the city of Racine, we had the pleasure of meeting with the representatives of the Press of our State at their annual gathering on the 18th of June; rather more in the character of an outsider, however, than otherwise. The attendance was not so large as we had anticipated; still the programme of two days duration was well filled with intellectual treats, sight-seeing and those refreshing things most appreciated by the inner-man. During our stay, we were the favored guest of J. I. Case, Esq., who has more than a State reputation as an enterprising Threshing Machine Manufacturer. It was our privilege, in common with several representatives of the press, to make a hasty tour through the various departments of his extensive establishment.—Never before have we seen the principle of the division of labor so elaborately illustrated. Each part of the machine has its separate department and set of hands to mould and shape it for its place in the finished whole. From the dock yard where the rough materials for the machines are unloaded, through all the departments of the factory to the counting room where this extensive business is booked, the man seemed to be constantly busy in plying their respective tasks. We felt that it must require a master mind to direct such a combination of power and skill. Like most men who have grown independent by assiduous attention to business, Mr. Case commenced his operations on a small scale, building his first machine in his back kitchen. By industry, his establishment has expanded to be one of the largest in the West, and his trade extends all over the North-West. His establishment is a credit to the State, and its systematic arrangement and neatness, an ornament to the city. Moreover, Mr. C. is a man of generous impulses, and has done much for the upbuilding of this pleasant city.

We would hardly be doing justice to Mr. Falvey's Reaper Manufactory, did we pass it over unnoticed. In company with Mr. Case, we passed through this extensive factory and observed the various manipulations which bring forth the complete machine. We did not have an opportunity to learn from Mr. Falvey, the details of his business.

Our stay at Racine was most pleasant; most particularly did we appreciate and do justice to the great "treat" which came in the shape of a "Strawberry Festival." This entertainment was excellent, and reflects great credit upon the patriotic ladies of the place.

Long will this festive occasion be remembered.

The Editor's Trip to Europe.—SOUTHAMPTON, England, May 16, 1862.—Weary of London rain, fog and smoke, and feeling the need of purer air and more cheerful skies, we resolved one day last week to leave L'Angleterre for a time. Took the cars accordingly this morning for Paris, via Southampton, Havre de Grace and Rouen. Found the country between L. and H. handsome and tolerably well cultivated, but the land was very wet from recent rains and the crops, particularly the wheat, looking badly.

Passing various villages—the most important of them Winchester—we arrived at Southampton at 10 o'clock, and immediately took a little steamer—built after an American model—for

THE BEAUTIFUL ISLE OF WIGHT,

where we thought it better to spend the afternoon, as the Havre steamer would not leave S. until after 11 o'clock at night. It was a beautiful morning, and as the little ship skimmed over the waters of the bay, passing fortifications, the magnificent Netley Naval Hospital, lordly mansions and distant villages, the voyage of some 22

miles was soon ended, and we glided into the charming harbor of Cowes before the hour of noon, leaving Ryde and the channel fleet at Spithead some miles to the left.

There were many places of present and historic interest to be seen on the Island, but inasmuch as we had allotted but one afternoon to their inspection, and as the circuit of the Isle would require a drive of some 60 miles, we made a selection of such places and objects as most interested us. Cowes is located very handsomely on two opposite slopes, or more properly hills, separated by a small stream, the outlet of which constitutes the harbor. The town is noted for its yachts and yatching clubs; probably for nothing else. The landing is on the side of West Cowes, and East Cowes is reached by a floating bridge. Crossing upon this bridge we ascended the hill by a handsome macadamized road, with charming villas on either side, to the magnificent palaces of Lord Gort and that of the Queen. The grounds of the Osborne estate of the Queen, including the farm, embrace about 2,000 acres. They are enclosed with a paling of thin boards, upright and lapped, so as to shut out all hope of obtrusive peepings-in from the profane world without. Entrance can only be effected through one of two massive iron gates, set in the arches of handsome stone "lodges," occupied by the porters and their families.—Furthermore lest some inquisitive plebean should venture to bribe the porter, armed guards are set to patrol the walks and carefully watch. The Queen being absent in Scotland, of course lost the honor of a call from her democratic friend, the Editor of the FARMER! We did so far ingratiate ourself with the porter and guard, however, as to get partial admission to the grounds, barns, &c.,—objects of much greater interest to us, professionally, than even Her Majesty with all her numerous brood. The residence is built of a handsome freestone in plain, but elegant English style. Situated upon something of an eminence, its two square towers are visible at a distance for many miles. The grounds are tastefully laid out, and have beautiful gravel walks and carriage ways, over velvet lawns and through shady groves, in every direction. The stables are extensive and quite imposing in their appearance. The stud at present consists of some 50 fine horses, adapted to the various uses required.

Leaving Osborne House we strolled through fragrant groves of locust, cedar, elm and plane to Whippingham Chapel, a beautiful unique little structure of stone designed and nearly completed by the Prince Consort. It stands some distance from the main thoroughfare, and is reached by winding carriage ways through pleasant groves. After the chasteness of the style of architecture and decoration, the first thing which arrested our attention was the arrangement for the separation of the plebean from the aristocratic communicants. There was one portion for the royal family quite out of view, another for the court of the Queen just opposite, each entered by separate and private doors, while in the main body of the chapel, christians in general, without respect to rank, are permitted to worship.

The object which next interested us was Carisbrooke Castle, a mile beyond Newport, which is itself 5 miles inland from Cowes. Ordinarily it would have been desirable to have taken a carriage for a journey of this distance, but the morning was so balmy and beautiful, and the way so enchantingly lovely, that, as if lured by fairies we walked on and on, thinking nothing of time or distance until we found ourself in the narrow and winding, but clean and pleasant streets of Newport. Dinner, and then on to "Carisbrooke Castle," which, with large trees half concealing it, glowers upon the little town from its high elevation. It was here that Charles the First was imprisoned, and here where the Princess Elizabeth, his daughter, died of grief after his execution, in 1650. Much of the castle is now in ruins, but a portion of the buildings within are occupied by a family who keep the gate and point out the places of greatest interest to the visitor—the large drawing room, the room where the Princess died, the window through which the King attempted to escape, the great well 250 feet deep and 8 feet in diameter where the donkey now draws water for the in-dwellers, the great tower from whose top a view may be had of almost the whole Island, &c., &c. Returning by the way of Carisbrooke village we saw the old Norman Church and such Roman antiquities as stone floor, and both belonging to a residence there in the time of Cæsar, and by another most delightful route, on the west side of the river, passed Honey-Hill, Horsebridge-Hill, Gurnard and other little villages and villas to Gurnard Bay, and thence along the beach to the harbor of Cowes, arriving in time for the evening boat to Southampton. It would hardly be possible to crowd more quiet, sweet enjoyment of nature, art and rural life into one day than we have had in this, and we earnestly recommend all travelers who may ever happen to be within one hundred miles of the Isle of Wight in either the spring, summer or autumn time to take the necessary time for a visit. No wonder that it is Victoria's favorite home.

Agriculturally considered, the Isle of Wight presents but little that is worthy of notice. The soil is variable—in some parts of the island a deep hard clay, in others a calcareous and flinty gravel. The crops are evidently not very large, though the cultivation is good. A number of Tile Factories supply good tile for thorough drainage. Of all public improvements, the roads appeared to us the most remarkable. They are mostly narrow, but the smoothest and handsomest we ever saw, enclosed with beautiful green hedges all the way, substantially macadamized with a surface as smooth as any sanded garden walk, and furthermore without any of those miserable ditches which make most roads in America so unpleasant and unsafe, they afforded us constant pleasure and made our afternoon pedestrianation of 14 miles seem but a single hour's promenade in some delightful park.

HAVRE DE GRACE AND ROUEN.

ROUEN, France, May 17.—After a slow but pleasant voyage across the British Channel, the sight of Havre de Grace greeted us at mid-day, its handsome hill-side resi-

In this connection we would caution the farmers, in buying, against counterfeits, represented as Fairbanks' Scales, made at Buffalo and other places, which we are credibly informed have been sold under that name. They are unlike the genuine, except in external appearance, and are undoubtedly altogether inferior, and we would advise them to buy only the genuine, made at St. Johnsbury, Vt., and which have "Fairbanks' Patent" on the Brass Beam and Platform of the scale.

Durham Cattle and South Down Sheep.—In this number appears the advertisement of John P. Roe, importer and breeder of pure Durham Cattle and South Down Sheep. A personal acquaintance with Mr. Roe, and his fine stock, disposes us to bespeak for him the patronage of amateur stock raisers.

Singer & Co.'s Sewing Machine.—A new advertisement of this sterling machine will be found in our advertising pages. It is too well known to need a lengthy notice of its merits.

STATEMENT

OF THE

Madison Mutual Insurance Company,

FOR THE YEAR ENDING

JANUARY 1st, 1862.

Made to the Governor of the State of Wisconsin, as required by the provisions of chapter 303, of the General Laws of 1858.

Total amount of accumulations,		**$216,865 76**
ASSETS:		
Premium notes of policy holders	$180,124 63	
Cash on hand, and due from policy holders for cash premiums,	35,408 66	
Am't secured by mortgage and judgment,	332 47	
Office furniture and fixtures,	1,000 00	$216,865 76
Whole number of policies issued,		14,357
Am't of outstanding risks thereon,		$10,320,789 00
Reported losses awaiting further proof,		3,709 80
Losses recently reported,		3,433 89
Whole number of policies issued in 1861		5,778
Amount of outstanding risks thereon,		$5,315,173 00
Amount of premium notes thereon,		93,944 06
Amount of cash premiums thereon,		48,377 36
Total amount of losses reported during the year,		15,801 13
Total am't of losses paid during the year,		6,881 16
Amount settled by drafts and awaiting the call of the insured,		1,568 85
Amount of commissions paid to Agents,		7,460 84
Am't paid for Advertising,	$1,625 20	
Amount paid for printing,	811 00	
Amount paid for postage,	366 22	
Amount paid for office rent,	200 00	3,002 42
Expenses paid, including all compensation of officers and directors—stationery, extra clerk hire, fuel, lights, and all other incidental expenses,		6,069 56

STATE OF WISCONSIN, } ss.
DANE COUNTY,

We, the undersigned, being the President and a majority of the Directors of the "Madison Mutual Insurance Company," do solemnly swear, and each for himself saith, that the foregoing is a true and correct statement of the affairs of said company in the particulars therein named, as appears by the books of the company, according to the best of our knowledge and belief.

D. J. POWERS, President.
JOHN W. BOYD,
SAMUEL D. HASTINGS,
B. F. HOPKINS,
TIMOTHY BROWN,
ALBERT WOOD,
G. F. HASTINGS,
H. H. GILES,
SAM'L R. McCLELLAN,
G. R. MONTAGUE,
ORRIN GUERNSEY,
LUTHER BASFORD,
DAVID ATWOOD,
D. WORTHINGTON.

Subscribed and sworn before me this sixth day of January, A. D. 1862. V. W. ROTH, Notary Public, Dane County.

Comparative Statement of the business of the Company for the years 1859, 1860 *and* 1861:

	1859.	1860.	1861.
Total amount of accumulations,	$39,060 96	$110,369 49	$216,865 76
ASSETS:			
Premium notes of policy holders,	$35,462 46	$92,487 27	$180,124 63
Cash on hand, and due from policy holders for cash premiums,	2,966 02	16,569 74	35,408 66
Amount secured by mortgage and judgment,	332 47	332 47	332 47
Office furniture and fixtures,	300 00	1,000 00	1,000 00
Whole number of policies issued,	39,060 05	110,369 49	216,865 76
Am't of outstanding risks thereon,	4,807	8,579	14,357
Total am't of losses paid and settled,	$2,409,065 49	$5,451,115 49	10,320,789 00
Losses reported and awaiting further proof,	2,409 45	5,903 31	8,460 01
Whole number of policies during the year,	1,157	499 53	7,351 12
Am't of outstanding risks thereon,	$1,140,076 00	$3,916,115 40	5,778
Am't of premium notes thereon,	17,109 83	63,789 45	$5,315,173 00
Am't of cash premiums thereon,	11,059 04	35,761 88	93,944 06
Am't of commissions paid to Agents,	3,817 70	10,339 18	48,377 36
Am't of expenses paid, including all compensation of officers, printing, advertising, postage, and all other incidental expenses,	3,317 51	5,847 44	9,071 89

The foregoing statement of the business of this Company for the past year gives a gratifying evidence of its high standing in the public estimation and of the success of its rules and principles of action.

Although its business for the preceding year (1860) was much larger than that of any previous year, and notwithstanding the general depression among farmers the past season, arising from light crops and low prices, the above figures show an increase of nearly *seventy per cent.* in the number of policies issued, and of *over seventy per cent.* in the amount of cash premiums for the past year.

We invite a careful examination of this report. Its figures make a stronger argument than any form of words, and prove a rise and standing in popular favor unparalleled in the history of the Northwest.

DIRECTORS AND OFFICERS FOR THE YEAR 1862:

DIRECTORS.

J. W. BOYD, Walworth County.
B. F. HOPKINS, Dane County.
D. WORTHINGTON, Waukesha County.
S. D. HASTINGS, Trempeleau County.
G. F. HASTINGS, Dane County.
DAVID ATWOOD, Dane County.
G. R. MONTAGUE, La Crosse County.
S. R. McCLELLAN, Kenosha County.

THE WISCONSIN FARMER.

J. W. HOYT, : : : : : : : : : : : EDITOR.

VOL. XIV. MADISON, AUGUST 1, 1862. No. 8.

Hints for the Season—August.

This is another busy month with the farmer. The early part of the month will be employed in finishing up the haying, and securing the wheat, oats, &c. Let the grain be well stacked and covered with a good thatch. A little labor and care of this kind secures the outside grain against driving rain storms, which often penetrate the naked stack, and destroys, or injures more or less grain. A few hours spent in thatching your stack may save the toil of weeks and months. Let the haying be finished up this month, whether on low or upland. It is a great mistake, (a mistake quite common,) to allow prairie grass to stand into September, and even October, before cutting. If for market, it may make but little or no difference with your pocket, if you can find unprincipled purchasers; but if fed to your cattle and horses through a cold winter, the difference will be seen and felt ere they leave the yard in spring.

The ground for winter wheat and rye should be put in order, and the seeding done the last of this month, or very first of the next. No crop is of more importance to the farmer than a field of rye. Aside from a crop of grain, it supplies excellent feed, both fall and spring, at a time when grass is of no account.

This is an important month with all root crops. If you would have a good crop of turnips, carrots, &c., the ground must be stirred and the weeds kept down.

The cows will now need something besides the dry grass from the pastures, to keep up a good flow of milk. To supply this want, nothing is equal to corn stalks, which may be obtained by topping a portion of the corn after it is glazed, or by going through the field and cutting out surplus stalks, or such as are barren of ears.

Towards the last of the month hogs intended for pork should be put up and started.

Examine the orchard trees for the eggs of insects. They will be found in dry, rolled up leaves, and in clusters on small twigs. Scrape the twigs and burn the leaves. If not destroyed, they hatch in spring.

Muck for Manure.

MR. FREAS:—There are many kinds of muck which becomes good manure simply by being taken out and exposed during the autumnal and winter months, to the action of the air and frost. The effect of the latter is to *fine* or pulverise the mass, and render it more easily handled, while that of the former tends to *sweeten* it; all muck of a vegetable nature, and which has long lain submerged, being possessed of an acid or sour principle which lessens greatly its value as a manure, if it does not actually destroy it.

It is by no means necessary, as many suppose, and as most agricultural writers attest, that all mucky masses require to be composted before they can be rendered of actual benefit to the soil. I have seen excellent and luxuriant crops of corn which had received no other dressing than muck taken directly from the primitive bed, and placed *fresh* under the corn at planting. Most muck which can be regarded as at all valuable for manuring crops, is almost exclusively of vegetable origin, and the result of successive annual deposits and decompositions, extending, for ought we know to the contrary, through thousands of years, or perhaps centuries. I have seen, in muck aken from a depth of thirty feet below the surface, the impression of leaves as freshly and distinctly defined as if sketched by the hand of art; yet the mass was as thoroughly decomposed as vegetable matters can be without dissipation or loss of identity.

That composting very essentially enhances

the value of many, perhaps, of most kinds of muck, when contemplated as a means of vegetable enrichment, there can be no question, but that it is in all cases indispensable, is a position wholly unsusceptible of proof. To every one therefore who is the owner of a *good muck bed*, I would say, use it at all times just as you would short manure. If its effects are not manifest the first season, they will be the next, and your land will soon exhibit evidences of its value which no one can dispute.

Muck may be used by the farmer in a great variety of ways, and always so as to be profitable. It may be made to absorb the liquid matters which are constantly accumulating around his buildings, and which are too frequently permitted to sink into the earth; or it may be mixed with loam in the yards, and used as a top-dressing for lands in grain or grass. In either of these modes of application, it will produce excellent effects. I hope that, as a general thing, there will be more attention accorded to this subject, and to the subject of manuring lands with other matters, than we have heretofore evinced in our operations.—We need *all* we can get from the soil, and the more we bestow in the form of manure, the more we shall receive. The autumn is a favorable season for attending to matters of this kind, and a few days devoted to the subject now, will enable us to double our products without anything like an equivalent expense in money, or in time, which, with most men of industrial and economical habits, is synonimous with cash.

Before closing this already lengthy, and perhaps, to most of your readers, *tedious* communication, permit me, sir, to say a few words on a subject not altogether irrelavant to the one discussed. I refer to the use of the well-known mineral fertiliser, Gypsum. Too much of this cannot well be used on a farm, I think, and already are its many virtues too well understood and too highly appreciated to require much to be said in its favor in this place; yet there is a probability, to say the least, that many who might use it to advantage, and who think so, will be deterred in consequence of supposing themselves unable to bear the expense. This is an unfounded fear, and no one who has lands to improve should indulge it for a moment. "A word to the wise," &c.—A PRACTICAL FARMER, in *Ger. Telegraph.*

WHITE CLOVER.—This forage plant seems to be very much neglected. That it possesses undoubted merits, especially as a pasture grass, no one can doubt. Thaer who was regarded as the most practical and scientific cultivator of his day, says: "It is certainly the most generally approved of all plants that are cultivated for this purpose." Fessenden wrote: "It does not contain as much nutritive matter as red clover, yet its value as a pasture grass is universally admitted.

This plant readily adapts itself to a large variety of soils, but its favorite position seem to be in moist land, and it always succeeds better in a wet season. It does not appear to be so much relished by stock as from its sweetness would naturally be supposed, yet it has been found that in pastures where this plant is largely found, milch cows produce milk of a nicer quality than that from any other grass.

We believe this plant to be capable of great improvement, by the proper selection and cultivation of varieties, and we hope it will ere long be accomplished.—*Maine Farmer.*

Prices of Harvest Help, &c.

ED. WIS. FARMER: I infer from what I have read in the papers of the State, and from conversing with the farmers in this vicinity, that high prices for help during the coming harvest, are generally anticipated. These views, I think, are erroneous, for the following reasons: First, as to the amount of labor to be performed, this depends of course mainly upon the quantity and quality of the grain to be harvested. And I think from the appearance of the wheat crop at the present writing, (July 8th,) that we shall not, after all, have *much*, if any, more than an average yield this year. The general complaint is that the wheat did not "stool" well, (the effects, I think, of the excessive rains,) and is consequently rather thin, exceptions to this are not few nor far between, but that the wheat crop will be less than has been expected, I think is very true. And the unprecedented quantity of reapers and mowers sold in the State this year, will partially make up for the absence of our young men who have gone to the war. The present prices of wheat will also tend to make farmers slow to pay exorbitant wages for harvest help. And perhaps it would be proper to calculate *some* upon the *growth* of the *boys* in our midst the past year. Another argument for low wages is the fact that farmers have universally *calculated* upon a scarcity of help in harvest, and laid their plans and planted and sowed accordingly.

And now Mr. Editor, would it not be for the best interest of Wisconsin farmers to so arrange their business as to bring about a more equal and uniform distribution of their farm labor

during the whole year. How many from one to two hundred acre farmers are there among us who have literally "nothing to do" except, perhaps, hoeing. Four or five acres of corn and a half acre of potatoes from the time they finish sowing their wheat and oats until harvesting commences. Infinitely better would it be for them (and their farms) to sow less wheat, and turn their attention more to the growing of corn, roots, grass, beans, peas and fruit, and to the raising of sheep, horses, pork, neat cattle, &c. By taking this course we may reasonably expect better prices for what wheat we *do* raise; also profitable employment for ourselves and our men during the entire season without being particularly hurried in any part, and also have *something* to sell every year that will bring a remunerative price.

G. H. ADAMS.

DANVILLE, Wis., July 8th, 1862.

Rejuvenation of Old Pastures.

Land that fails to feed more than one animal, where it used to feed five or six, *can be restored to fertility*. The subject is important, in proportion to the extent of land to be restored, which is very large. The treatment should of course vary with the character of the land, situation, cause of failure, &c. I propose to define a few cases, and to suggest a treatment adapted to each.

1st. A pasture of naturally good soil, feasible, neither steep nor rocky; but long cultivated with exhausting crops, without manure; made to grow inferior kinds when it would no longer produce the more valuable; and then, when it would return nothing worth the labor, turned over to pasture. It starves the cattle. The owner complains. He should not, for it is but the inevitable result of his own doings.—He exhausted the soil of all plant-food, then in a condition to be appropriated by plants. He has done nothing to promote changes in the soil, by which its inorganic elements may be converted into plant-food, it therefore lies dormant. Most of the elements of plant-food are there, in quantities sufficient for thousands of crops; but for the want of others, and for the want of action in the soil, they are about as useless as the gold now in circulation was, when embedded in the Maraposa gulches.

Now, unless the owner be satisfied with an unproductive investment, let him plow that land again. He should plow it a little deeper the first year than it was ever plowed before, still deeper the second, and yet deeper the third, and so on till he at least doubles upon the former practice. A liberal supply of manure will create action in the soil, will set in motion chemical changes, by which plant-food is eliminated from the before dormant elements, and the consequence will be, good crops, while the cultivation is continued, and abundant pasture for many years after. It should be borne in mind that the refusal of such land to produce grass satisfactorily, was owing simply to the want of something done and something added, to make what was already in the soil effective. Plowing, harrowing, cultivating, stirring the soil, and aerating it, are the things done; the manure is the thing added; and now action is induced in the soil. The owner gets an income from his land, much on the principle of the old Grecian adage, that "The gods help those who help themselves."

2d. Land similar to the foregoing, with the exception of not being feasible; that is, soil good originally, but too steep, broken or rocky, to be plowed; long pastured, but turf bound and little productive; such land as abounds in New England, and in some portions of New York and New Jersey. Thousands of hill-sides are such, that to plow and cultivate them is impossible. They can be used only for pasturage. A heavy dressing of ashes will, in most cases, bring them up; but as wood ashes, to an extent commensurate with the breadth of such land, cannot be had, such a prescription would be valueless. Lime, sowed broadcast on the surface, would rot the old grass roots and bring in the clover and other forage plants more nutritious than the wire grasses now growing, and would at the same time act, by its alkaline properties, favorably upon the soil, and might pay in locations where lime can be had at a low rate. Plaster does well, if the soil be warm; but if it be cold, wet and sour, plaster is of little or no use. It would be well for all farmers, who have failing pastures, to make trial of ashes, wherever they can be had at not more than ten cents a bushel leached, or fifteen cents unleached. They would do well, also, to make trial, if they have not already done it to their satisfaction, of lime and of plaster, as that is the only way in which the value of either, for any particular soil, can be satisfactorily tested.

Let it be remembered that those pastures which have never felt the plow, have not failed from exhaustion. Why should they be exhausted? Not a crop has ever been carried from them, except perhaps a single grain crop, when first cleared. The cattle that have grazed them, have returned to the surface nine-tenths of all they have taken from it. It cannot therefore be that the failure is due to an abstraction of all the valuable ingredients, as is the case with badly misused plow-lands.—There must be some other cause. It is the condition into which the soil has fallen. Plowing and manuring are what is wanted. But that being out of question, on account of their

roughness, what can be done, that will in some measure prove a substitute? Chafing the surface with a harrow, will have in part the effect of plowing. It will bring portions of the soil in contact with the air. It will loosen the surface and admit the air. Sub-soiling, if practicable, will be ten times better. If you can run a sub-soil plow sixteen or eighteen inches deep, once in two or three feet, the whole surface will be lifted and made pervious to the air. If, on account of the rocky character of the pasture, it can be run but ten or twelve inches deep, and that even only on portions, better so than nothing. Do not fear that the grass will be killed out by harrowing and sub-soiling. In the first place, you cannot kill it if you would; and in the second place, if you were to kill two-thirds of the grass plants on every square foot, the growth would be all the greater for it. On an old turf there are too many plants rather than too few. In addition to the top-dressing with ashes, lime, or plaster, we would suggest that the chafing of the surface with a sharp harrow, and the sub-soiling of such portions of a rough pasture as will admit, are operations which will be likely to pay well for the labor. On pastures that have been long used for dairy purposes, bone earth will not fail to pay. It may be applied at the rate of three or four cwt. to the acre, with absolute certainty of returning more than its cost in the enlarged quantity and improved quality of the food. Super-phosphate of lime, applied at the rate of from one to two hundred pounds an acre, is equally sure of giving a good return from old dairy pastures, and will give the return much more speedily.

3d. There is another kind of pasture, not wholly unknown in this country—hill tops and steep slopes—soil naturally poor—gave a fair crop of rye or wheat when first cleared, and some grass for a few years afterwards, but now nearly barren. The only best thing that can be done with such, is to grow a twenty-five year's crop of wood and timber on them. There are at least half a million acres in Massachusetts, and many in all the Eastern states, for which this would be the best possible use.—Abundance of timber would thus be supplied. The local climate would be improved, winters milder, summers more equable, rains more abundant, and drouths less severe. Probably a region, one-fourth in forest, will give quite as great an amount of agricultural products, as if all were cleared. If it be asked how shall such rocky hill-tops and sides be brought into wood, the answer is, little more need be done than to shut off the cattle. But the process may be hastened somewhat, by planting a variety of seeds—as butternuts, chestnuts, horse-chestnuts, beech-nuts, hickory nuts, acorns, &c., &c. A great variety would be more likely to answer the purpose. If the surface were broken up here and there in spots, and a variety of seeds applied, some of them would be likely to find a congenial location and soil.

The best way of planting such seeds—nuts mostly—is, not to cover them with earth, as we do the seeds of cultivated crops, but merely to lay them on the surface, and throw over them a little leaf mold. With most of them, it is not necessary that even the ground should be mellowed. The chestnut, for instance, will grow vigorously the first few months, in a soil nearly as hard as rock; and whether it grow well afterwards, depends mainly upon the ingredients of the soil, and not upon its physical condition. It is so in degree with many kinds. Let the naked hill tops and their steep sides be made to grow fuel and timber. The cost of starting need not be great, and almost the only condition of success is, that here and there a tree be started, and that cattle be kept off for a few years. As the ground begins to be shaded, and its surface to be mulched with leaves, other trees will spring up, and there will be the older trees and the under-brush of a miniature forest within ten years; and in fifteen or twenty years it will begin to make its return in fuel and timber.

The planting of nuts should be in the fall, and the nut should not have dried before planting. If kept till spring, they should be kept in a cold, damp place. There is no better place than on the ground, with a slight mulching over them, or in a hole dug for them but four or five inches deep, and covered simply with a board or a flat stone. Mulching with loam, from the time of planting onward, till they shed leaves enough to cover their own roots, is greatly beneficial to all trees, but to none more than to forest trees.—PROF. NASH, in *Working Farmer and U. S. Journal.*

Will Farming Pay.

Luther Buxton, in the Oshkosh *Northwestern*, in alluding to the remarks of some of our State Senators, made in debate, that "farming did not pay over one per cent., and hardly that"—rather has the Senator on the hip. He says:

"The remarks of the Senator are well calculated to convey the impression that farming in the State of Wisconsin, is a non-paying business. The truth is far different. There is no State in the Union where farming pays better than this. Many are improving their farms, and at the same time making them pay ten per cent. I would not doubt the Senator's word in regard to the per cent. they make from their farms. I think the truth is they have run their "Political Machine" at the expense of the farm.

I never could understand before why we have so many poor and inconsistant laws, upon our Statute books, but until I have further light, I must come to the conclusion, it is because we have too many one per cent. farmers in our Legislature.

I can give Senators the names of farmers in this county who will answer, ("without an exception," with wheat at 60 cents per bushel,) that they make their farms pay 10 per cent. If he had interrogated the undersigned, I should have answered as follows:

The farm, stock and tools, cost in the fall of 1860, fifty-one hundred dollars, ($5,100.)

The receipts were, in 1861:

Wheat raised 2,070 bushels at 60 cents,	$1,206
Pork, after deducting family's use,	150
Hay, (excess,)	79
Wool,	56
Increase in lambs and cattle,	61
Total,	$1,543

No account kept of the profit of seven cows.

Expenses:

Cash paid for work the past year, family's use, seed wheat at 60 cts., wear and tear of tools at $20,	$581
Taxes,	83
Own labor to balance,	119
Total,	$1,543

Call my own labor at $170, and wheat at the present price at Neenah, 73 cents, one can easily find 20 per cent. on the investment. I do not present my own case because it is better than many others; but because I have the figures near at hand. I have neighbors who can figure a larger per cent. than I can.

The large barns, elegant houses, and highly cultivated farms in Winnebago Co., gives the lie to "the one per cent. farming." L. B."

Mole Draining.

Few of our farmers have any conception of the benefits of Mole draining.

It is almost entirely owing to their *thorough* under draining that the English farmers manage as a rule, to get from 50 to 60 bushels of wheat per acre. Our Western farmer cannot, of course, under drain his farm with stone or even tile, but *all* could avail themselves of the mole plow.

Hear what Dr. Kennicot, Western Editor of *Moore's Rural*, says:

"I stopped at Campaign and spent the Sabbath with Hon. M. L. Dunlap, Editor of the Illinois *Farmer;* agriculturist and horticulturist, theoretically and practically. Had a good time, as I always do here. The soil is soft and oozy, but nevertheless, we traversed the domain—both farm and nursery.

OPEN DITCHES VS. MOLE DRAINS.

Friend Dunlap will make no more open ditches on his premises. 'Pat' got a job in 1860, and he was the kind of a mole drain for Dr., as he told me then; but last fall the mole man came along and had put in a mole drain alongside of the ditch, three feet below the surface. The ditch was soon dry, and the influence of the mole extended much further, either side, than that of the ditch. The ditch was four rods from the mole, and yet it was drained dry. Another thing gained. By running this single mole drain through the centre of the sleugh, he secures living water for his stock the year round.

Whereas he had less confidence in the utility of the mole drainer than some others, now he has more when the sub-soil is a stiff clay.

Last fall I conversed with D. F. Kinney, of Rock Island, on the subject of mole drains. He had them on his place, and he said he found that when they had been put in on plowed land, they had failed, having filled; but where the surface was a sward he had no trouble.—Asking Mr. D. if he had any such experience, he said that it was sometimes the case, but it was due to mal-practice of the parties working the mole, the mole runs easier, and the drain can be made more rapidly in proportion as it runs nearer the surface. Hence a dishonest operator may, and sometimes does, destroy his own work by dishonest practice. If the mole be run deep enough—three to three and a half feet deep in a stiff clay—it will be effectual, even though the surface be 'as mellow as an ash heap.'"

Flax vs. Cotton.

A correspondent writing from Washington, is enthusiastic over the new process of obtaining flax-wool. Hear him:

"I have before me, as I write, Cotton's king in the shape of flax-wool, about which I will tell you some things. By a new process, the fibre of common flax can be reduced to a beautiful wool, as white and as fine as any upland cotton. The sample I have was raised in Ohio, and the process is a discovery of an Ohio man. One ton of 'flax straw,' will produce one bale of four hundred and fifty-two pounds of the 'wool,' and one acre will produce two tons of straw, or two bales of wool. A little calculation will show what immense results will flow from the discovery of this new 'emancipator.' The farmer after realizing on an average ten dollars an acre for his flax-seed, sells his flax-straw at a minimum price of five dollars a ton, or ten dollars the acre, giving him a gross product of twenty dollars, and under an increased demand and favorable circumstances, thirty dollars the acre. This wool can be separated from the straw, cleaned, bleached and baled ready for market at *five cents* a pound. No cotton will ever compete with it in quality or cheapness. Two men, with the present aids to labor by machinery, can cultivate forty acres of flax, or bring out a result of eighty bales a season. It requires the labor of twenty slaves to produce the same amount of cotton. The climate of the Northern and Western States is peculiarly adapted to flax culture and can give the world enough of this staple to clothe it in fine linen, 'if not in purple,' and yet not interfere with the production of the other great staples. Who knows but that the

'Great West' may yet be the clothier, as well as the feeder of the world, and that this little plant, so modest in its proportions, shall work out the great problem of our national difficulties."

The Hay Business.

DISCUSSION AT NEW YORK FARMER'S CLUB.

The question of feeding hay upon the farm, or selling it, was now called up, but there were not many farmers present who could give much practical information.

Prof. Mapes said that it was a question that must be decided by the circumstances of each locality. In some parts of New England, stable manure is valued at $5 a cord, while hay is not salable at more than $10 a ton. There, it would be most profitable to feed the hay on the farm. In New Jersey, where I live, manure can be bought for $1 a cord, and hay sold at $15 or $18 a ton, and there it is more profitable to sell the hay and keep up the fertility of the land by fertilizers.

I can grow three tons of timothy per acre, and I can make it profitable to sell the hay and apply something else to the land. I believe wherever hay is worth $10 a ton, it is better for the farmer to sell it than it is to feed it.

It seems to be a question with many farmers how little manure they can manage to get along with, instead of "how much can I use with a profit?"

Some farmers use but ten loads where they could make fifty more profitable. I know market-gardeners who use 150 loads of manure to the acre, and it is a common thing for men to pay a rent of $50 an acre per annum for garden land. Such men could not afford to feed hay on the farm to make manure; but they can afford to raise it, and most farmers could afford to use it more freely.

John G. Bergen and Adrian Bergen of Long Island, coincided with Prof. Mapes, and said that many farmers on the Island average $15 a ton for hay sold in the city, and at that they cannot afford to feed it at home; but they can afford to buy manure, and do so to keep up the fertility of their farms.

Haying-Machines.—Prof. Mapes—The improvement in haying-machines enables farmers to make hay cheaper and better than formerly. Most of them know something of mowing-machines, but there is another important machine for them to know, as the hay crop is increased by a better system of farming, and that is the "tedding machine," which stirs the hay by horse-power. By the use of this machine, hay cut by the mower, after the dew is off, may be cured fit to go in the barn the same day, if put up with salt. Hay-caps and horse-forks, too, are great helps to the hay-maker. So is the sub-soil plow, for with it old meadows can be renovated without turning the sod, by running it every three feet, and manuring.

John G. Bergen—Hay may be cured in one hot day, but as a general thing it must have more time, if cut when in the best condition, that is, before the blossom falls. Clover cannot be cured in one day by any process.

Adrian Bergen—I am satisfied that it is best to cut grass early, and use salt, half a peck to a ton, to cure it.

WEIGHT OF MANURE.—A solid foot of half rotted stable manure will weigh, upon an average, 56 pounds. If it is coarse or dry, it will average 48 pounds to the foot. A load of manure, or 36 cubic feet, of first quality, will weigh 2,016 pounds; second quality, 1,728 pounds. Weight to the acre—eight loads of first kind, weighing 16,128 pounds, will give 108 pounds to each square rod, and less than 2¼ pounds to each square foot. Five loads will give 63 pounds to the rod. An acre containing 43,560 square feet, the calculation of pounds per foot, of any quantity per acre, is easily made.

STOCK REGISTER.

Sheep in Connection with Wheat Growing.

In a recent number of the *Journal of the N. Y. Agricultural Society*, General Rawson Harmon, of Wheatland, N. Y., gives the following account of his practice with sheep in connection with clover and wheat-growing, which we recommend to the attention of our wheat growing farmers, who have a soil and situation adapted to clover and sheep:

For many years we have kept two sheep to the acre of wheat land; say for one hundred and fifty acres, three hundred sheep may be kept, and the regular rotation of the wheat and clover kept up on the one hundred and fifty acres, forty of which should be in wheat each year, and ten in corn and roots. Clover seed should be sown in March or April, six quarts to the acre, and as soon as the ground is dry in the spring, one bushel of plaster should be sown to the acre. Barley or oats should follow corn and roots, and seeded as above; so we have fifty acres seeded with clover each year, ten acres in corn and roots, leaving ninety acres for pasturing and mowing. A team is to be kept for the work on the farm, and three or four cows, for the use of the family; and no other stock should be kept, except hogs, for the family use, and they should be limited, for mutton is cheaper and more wholesome meat than pork. The above, for the use of the family, is all the stock that should be kept on a wheat growing farm, except sheep; and with

the above amount of land, three hundred sheep may be kept, and well cared for. They should be kept at the barn till the first of May, when they should be turned on to the fields which the corn and root crops are to occupy, and where the wheat is to be sown, remaining till the clover in the pastures is half grown; then give the sheep a chance in that, which will keep them till the clover commences heading out where the wheat and barley has been harvested. One great cause of failure in sheep husbandry is in letting the sheep run on the pastures long after clover has done growing, and in the spring before it commences growing, when there is no tallow in the clover, and it is gnawed into the ground, and much of it destroyed.

For winter management most farmers fail, in giving the sheep too much run. Where they are stabled, or kept in close sheds and not suffered to run at large, from November to May, one-fourth of the food can be saved, the flock kept in better condition, giving one-fourth more wool, and making twice the amount of the most valuable manure made on the farm. From fifty to one hundred are to be kept in a flock. Sheep of about the same weight should be kept together; where lambs or yearlings are suffered to run with full grown sheep they will not do so well. Lambs should be taken from the ewes about the 20th of August, if dropped in the month of May, and a few yearlings put with them, and they will be more easily controlled, and by the 20th of September they should be fed moderately with oats or bran and a little salt every day, so that by the time they come to the barn they are tame and in good condition for wintering. The first clover in the barley field would be a favorable field for lambs. The corn, roots, and barley should be wholly fed out on the farm; and, with the straw, cornstalks, and hay, all may be well supplied from November till May, except the team, which it may be well to keep in the stable when not at work. All the manure made each year should be applied to the corn and root field. Wethers, three past, and ewes that begin to lose their teeth, should be put in one yard, and grained through the winter, and then they will be fit for the butcher, and will pay for the food they have consumed; and they must be disposed of, so as to give place for the increase. No sheep should be sold from the farm till they have come to full maturity. The selling of lambs to butchers, is ruinous to a flock—or letting butchers go in and take the best of the flock. Old sheep as well as lambs, should have some grain or roots every day while at the barn. Sheep will pay much better for the grain they eat than the man you sell to will. No animal kept on the farm will pay better than the sheep—for their rapid increase with their fleece and meat, give a better return for what they consume than any stock kept on a grain farm.

The Taxes, the Dogs and the Sheep.

The following article, although written for another section of country, is eminently adapted for this region also:

No branch of farming pays a better profit than the rearing of lambs for an early market and the feeding of sheep for the butcher. But to carry on this business with profit, the farmer must have a knowledge of the habits and diseases of the animal and must devote himself to their care and management; for when these are left to the ignorance, stupidity and recklessness which so commonly characterize hired help, disease and loss are sure to follow. Shedding to shelter them from the cold rains of the winter and spring, must also be provided, for there is no animal which suffers more from the influence of wet than the sheep. A drizzling, soaking rain will, in the course of a day or two, penetrate the longest and thickest wool, sometimes even to the skin, which afterwards keeps the poor neglected animal in a state of suffering for many days, particularly if the rain should be followed by sharp and cold winds. The skin becomes chilled and closed, and the lungs or bowels become affected with the most serious maladies. But apart from the loss to the sheep owner from his own carelessness and neglect, and the waste of grain and hay from want of proper superintendence, a heavy loss is suffered in every agricultural district from the ravages committed by dogs. This of late years has become quite a drawback to the breeding and rearing of sheep, and it is asserted on high authority, that the country at large is a great loser, not alone from actual depredations which are committed by dogs upon sheep, but, perhaps more than that, from the apprehensions of attack preventing many farmers from keeping sheep upon their farms. A man who has suffered a severe loss in his flock from dogs, or who has witnessed it in his neighbor's flock, is loth to keep up his stock of sheep or to purchase wethers for the butcher's use. From this cause, the increase of the number of sheep does not keep pace with the advance of agriculture in general, and the price of mutton continues high, while we have not a full supply of home-raised wool. If this loss was computed, it would be found to be enormous; and reflection upon this subject has often suggested the question, Is there no remedy?

Let us look around at the farms and through the villages of Chester County, and see what an immense number of worthless curs infest the community; and for what purpose are they kept by their owners, if they have any owners? There are many sporting dogs, it is true; but is it not true, also, that when the assessor goes his rounds, the owner denies his dog, and thus for many animals which depredate on the community as above shown, the community re-

ceive no benefit in the way of taxes? Why, again, let it be asked, do farmers themselves keep so many great overgrown useless dogs? These brutes are of but little use or protection against thieves and evil-doers; a resolute man can always keep even the most ferocious dogs at bay, and professed thieves are not baffled in their designs by large dogs more than small ones. If farmers will keep dogs, let them keep dogs which are useful and not hurtful. Terriers or the small shepherd's dogs are valuable aids to the farmer; but a savage bull-dog, or even a Newfoundland or any large dog, is not only useless, but a terror to honest people and stock, and especially to sheep.

Farmers should have none but dogs that bark and don't bite; a dog that barks and runs away is more to be feared by thieves than one who will stand his ground to be slain, but who makes no noise. The burglar fears the noisy dog will alarm the master; and a little cur shut up in the house is a better safeguard than the most ferocious bull-dog outside.

The industrial classes are everywhere groaning under the burdens imposed by the necessities of the war, while the luxurious and idle, the sporting man and owner of dogs everywhere are, to a great extent, let off lightly. There are millions of dogs in the country from which, by taxation, an immense revenue might be collected. Let every dog *under* twenty pounds weight be taxed five dollars, and every dog *over* twenty pounds be taxed ten dollars per year. Any man who can afford to keep a dog can afford to pay the tax. Useless dogs would be soon killed, the growers of wool and fine mutton would increase vastly, to the benefit of the farming interest and that of the entire people. Tax the dogs, tax the dogs.—*Evans's Rural Economist.*

Value of Shelter for Sheep.

Wm. H. Ladd, one of the best farmers of the State of Ohio, who has given especial attention to sheep, gives the following careful estimate in the *Ohio Farmer*, of the value of shelter to sheep, suggested by the remark of a neighbor, that "It won't pay to build shelter for sheep." This neighbor kept 1000 head and lost many animals, and it was from his losses that a part of this estimate is made:

Let me make some very low estimates in reference to the loss occasioned by this treatment in thirty years. First, if the sheep sheared two pounds of wool per head under this treatment, they would have shorn three pounds had they received good care. Second, one pound difference per head on 1,000 sheep makes 1,000 pounds; 1,000 pounds in 30 years, at 40 cents per pound, $12,000. It is a very low estimate, counting sheep at the lowest common price, that a flock of 1,000 sheep should yield $500 worth of surplus stock to sell each year; this in 30 years amounts to $15,000. Feed saved by shelter, say $200 each year, worth in 30 years, $6,000; simple interest at 6 per cent. on amount saved in 30 years, $30,690; difference of the value of stock on hand at the end of 30 years, $1,000; value of shelters to the proprietor at the close of 30 years, $1,000; amount saved, $65,690. Per contra—shelters cost say $3,000; additional grain fed, say $400 each year, in 30 years $12,000; interest as above, $16,560; for keeping shelters in repair, $1,000—total $32,560. Difference in favor of shelters and good care, $33,130. Don't look at this as a fancy sketch; it is a reality, and the only incorrectness about it is, that the estimated difference in favor of good keeping is in every particular below the reality.

Wool Growing in the St. Croix Valley.

River Falls, June 8th, 1862.

Messrs. Elwell & Starr:—I received your favor of June 5th, in which you say you are not as well informed on the subject of sheep raising in the St. Croix Valley, as you would like to be, and request me to give through the columns of your paper, my own experience in wool growing, for the last few years. It gives me much pleasure to see that you are disposed to take hold of the subject at this time, a time of all others, that the people of the St. Croix Valley should look around and see what great natural advantages they possess over other sections of our country, and try to improve the same. In times of revolution like the present, every commonwealth should watch carefully and try and discover in what way it is going to affect themselves, and as we are all anxious to possess the greatest amount of freedom that we consistently can, and as true freedom consists in having all of the elements within your own control, necessary for your own happiness, and not being dependent on others for the same.

The first sheep brought into the Kinnickinnick Valley, were two or three brought by Mr. Gibbs, the father-in-law of Mr. Burross, who resides about three miles from our village. He kept them until he had nine old, and seven young ones; and wishing to return to Iowa, came to me and requested me to purchase them; at the same time telling me it was the best business a man could go into, in this country. I laughed at the old gentleman, and told him that I was not prepared for that, (as most every one tells me now) and that the dogs would kill them. He wished me to make him an offer for them. I told him if they were as good as he represented them, I would give him forty dollars for the lot if he would fetch them to my place. He said it was not much more than half what they were worth. Two or three days after, he came up with the sheep, and took the money and left them. I paid but very little attention to them; had no pasture,

but let them run out, salting them now and then. I found at the end of the year that I had sold lambs and wool sufficient to get back my forty dollars and pay me for all trouble, and would not have disposed of what I had left for seventy-five dollars.

I have increased my flock from below, twice. The first time fetching up one hundred and fifty. The second time three hundred besides five fine bucks. Since, I have sold small lots through the country, and I am satisfied that money invested in sheep, either to keep or let out, is better than three per cent a month.

Last season I let out small lots, of twenty and twenty-five, to different farmers near this place. They were to give me half of the wool and half of the increase of lambs, keeping the old stock good, and if not lambs sufficient to keep the old stock full, make them good, at the rate of three dollars per head.

To show you the difference between sheep and cows—for instance, Mr. Tobias Lord, who resides about two and a half miles from this village, took twenty of my sheep. He has twenty lambs; ten of which are his, and which you cannot buy for thirty dollars. He has 20 fleeces which will weigh over four lbs. to the fleece—ten of which are his. You will discover that he has done as well as if I had given him two cows last season, for this reason—it takes no more to keep twenty sheep, than two cows, and to-day he will not give his share of the sheep for two cows.

You will discover that the man that lets out sheep to the farmers, needs no mortgage on his farm, like the man that lets money at three per cent a month. While one benefits the farmer, the other cuts his throat.

You will find while talking with farmers upon the subject of wool-growing, and sheep raising, the first they say will be, what can we do with our wool? We have no *manufactories*. It is singular that these men who are laboring so hard to raise wheat and get it to market, do not contrast the difference in expense of marketing the two articles.

For the benefit of such farmers, I will give my experience of last season. I took to Prescott, between four and five hundred lbs. of wool, and shipped it for Milwaukee, and handed the bill of lading to Mr. Westfall, of the Prescott Bank, requesting him to attend to it for me. In a few days he gave me the returns for my wool. It had brought 48 cents per lb. in Milwaukee. At the same time he showed me the returns on a shipment of wheat to the same place, which sold for the same amount of money as my wool, but while they had taken out of my wool money for expenses in getting to market, and selling the same—seven dollars, they had taken some forty out of the wheat money.

In order that these men may not have that old excuse any longer, I enclose you the following letter, of the same date as yours:

CANNON FALLS, June 5th.

JOSH. FOSTER, Esq., RIVER FALLS, Wis.,—*Dear Sir*:—We have our water wheel in, and shall be ready to commence carding rolls about the 15th or 20th of this month. Shall also commence manufacturing wool into cloth, in a short time.

Hoping to see, or hear from you in a short time, we remain, Yours truly, JENNINGS, McVAUGHTON & Co.

Messrs. Editors, it appears to me that no one can pass over that fine rolling prairie between your city, and our village, without noticing how well adapted to extensive sheep grazing it is, and I always look when passing over that section, to see if any of your moneyed men have been shrewd enough to occupy it for that purpose. It must be evident to any one, that large herds of sheep can be successfully kept through the summer season, and all that is necessary for winter is to have a small proportion of the hay on Willow or Hay rivers, with a small amount of grain, and a parcel of rough sheds, to winter any amount of sheep.

I can only account for your moneyed men not taking hold of this branch of business, instead of merchandize, that they are more fond of the fancy than the substantial, the superficial than the useful.

I hope, Sirs, you will take hold of this subject, at this time, and rouse up the people of the St. Croix Valley, and not let the people of Minnesota get too far ahead of us in wool growing or manufacturing, while the great and important water-powers on the Willow, Apple and Kinnickinnick Rivers are lying idle.

Yours very truly, J. FOSTER.

Early Cut Hay for Milch Cows.

What is the best time for cutting hay for dairy cows?—should it be cut at the same time for all kind of stock?—are practical questions which every dairyman must consider at each season.

The state of the maturity to which grass should arrive before it is cut, is a point about which men differ materially. The different dispositions which are to be made of the hay, doubtless modifies to some extent the conclusions at which they arrive. Some think it should stand till the seed is full and the stems get pretty well ripened, because it is then heavier than before. Others think it should be cut when in full bloom or before.

There must either be little or no difference in the quality and value of late and early cut hay, or else the observers are at fault. Practical men are pretty well agreed that for horses it should not be cut till it is out of the blossom entirely, and the seed begins to fill, and that for calves it should be cut when in the blossom or before.

This is a concession by the farming public, that it is considerably modified in quality by standing, and this modification should be understood.

The truth is, there is the greatest amount of matter that may be used as food in a given

field of grass, when it is in full bloom, and the value of that food for a few days afterward varies but little, though in weight and bulk it may vary considerably. But there is quite a difference in the kind or quality of food before and after it is in blossom. Before it is in bloom its extractive matter, which is used as food, contains a greater percentage of starch, gum, sugar and fat, especially yellow fat; and after it has passed the bloom it has a greater percentage of flesh-forming material along with woody fibre and mineral matter. In the former period, it contains more elements of respiration, the source of animal heat and fatness; and in the latter, the foundation of muscle.

These different qualities have their uses.—The horse by his vigorous exercise maintains his proper warmth, to a considerable extent, by the rapid waste of tissue and muscular fibre, and hence especially in warm weather, can labor and travel better on the less heating, late cut hay.

But in the young animal, as the calf, the heat derived from the waste of tissue is comparatively but little, and hence the early cut or more heat-producing hay is wanted; and besides, the green food is more easily digested.

A cow when giving milk does much the best upon the same kind of food preferred by the calf, because she derives her warmth not by exercise, but by her food directly. To maintain her condition and give milk, a cow must be fed on food rich in the elements of fatness. It is impossible for a cow to give a large quantity of rich milk on late cut hay, without growing poor rapidly; because it does not contain the material from which the milk can be formed, and is, withal, so slow of digestion, that she can do but little more than digest enough to support herself.

It must be evident to every one who will consider the matter attentively, that hay for milch cows is not improved by standing after it has blossomed, but on the contrary is as profitable, especially to feed out in the spring, when cut as soon as it begins to blossom or even before, and that as dairymen we err, most of us, in not beginning our haying soon enough.

There is, I know, but little use in showing by argument when hay is best cut for any purpose. It is a point that must be settled by practice rather than philosophy. I have experimented till I am fully satisfied that I have suffered annually a serious loss by letting my grass stand too long before I commenced cutting. I have done as a majority still do, waited till I supposed it had reached its full size before I begun. I have had too much regard to bulk and weight rather than quality.

If any reader is sceptical about the greater value of early cut hay for producing milk, especially clover hay, let him try it; let him cut some late and some early, and fodder it out any way that will satisfy him conclusively as to the value derived from each from a given area of ground, and my word for it, if he has been in the habit of waiting till his grass has reached its full weight, or even its full size, before he begins, he will start earlier next year.—*Dairy Farmer.*

Chester County Whites.

Among the important characteristics of this breed of hogs, is its remarkable aptitude to fatten at any age, and without being fed on grain. On good pasture, with the ordinary "slops" from the kitchen and dairy, the Chester will at all times keep sleek and fat,—in fact, our farmers frequently have trouble in keeping their breeding sows in sufficiently low condition when running to pasture, with nothing but pure water to drink. With this aptitude to fatten, we claim for the Chester, *that they will produce more pork upon the same amount of food than any other breed*, consequently, they are more valuable and profitable to the farmer, than any other breed. A genuine Chester, when well cared for, will gain on an average one pound weight per day till two years old, and has been known to reach one thousand lbs. at that age and over. We do not consider it desirable, however, nor is it profitable to attempt to reach this great weight. From 300 to 400 lbs. weight makes the best pork, and a well fed Chester *is sure* to make this weight at from nine to twelve months old. At eight weeks old—which is the proper age for shipping, and they should never be sent abroad earlier—our shoats measure about thirty inches in length and weigh about fifty lbs.

The following are recognized by our best breeders here as some of the established "points" of this stock:

Form—Head short and broad, face somewhat dished—wide between the eyes and jowls.—*Ears* fine and thin, standing well out from the head, and pointing forward, (never drooping.) *Neck* short and thick, well set on the shoulders which are prominent and full. *Sides* carrying their full width back to the hams and rounded. *Hams* rounded, swelling out behind and at the sides, and presenting a full and round appearance on all sides. *Back* straight and broad. (A pig that has low shoulders or sinks in the back, should at once be rejected as a breeder, —it is only fit for the butcher.)

Color—*Clear white* and when well washed presents frequently a silky appearance. (The least *spot*, or approach to a *sandy* color, indicates a "grade" animal.)

Hair—Soft, thin on the back and belly, more thickly set on the sides, and frequently a little curled.

Bones small and fine. *Tail* fine, tapering and curled.—*American Farmer.*

Cavalry Horses.

The following suggestion from the old *Spirit of the Times* are worthy of consideration at this time:

A few years ago we told them calmly, plainly, and emphatically, they would rue the day when they permitted racing to die out; that the time would come when they would need the courage, the endurance, of the racer in the breed of their horses. We were laughed at for our pains, and men who ought to have known better shrugged their shoulders, remarking that it was our *business* to talk thus and so. The day which we prophesied has come; yea, verily, we can ask where are your horses? where are your chargers? where is the cavalry to come from to prosecute the war you have undertaken? It is thoroughly understood by all who have any knowledge on the subject that men high in authority in this State insist that we cannot mount a regiment of cavalry properly. When this was first bruited abroad people looked at each other in utter amazement; but such is the case—we have no horses.

What a laughable sight it would be, were it not so serious a matter, to see a thousand men mounted on a heterogeneous lot of horses, crossing over a plowed field with a ditch at one end, the Connestogas stumbling in their efforts to raise their feet over the ridges, falling when forced to a gallop, the trotters trying to keep up at their unnatural gait, and the hacks that could gallop a little, after reaching the ditch, tumbling into it or trying to wade through instead of clearing it with a single bound, and worse than all would be the action of these brutes when within sound of the cannon's roar, shying, turning, twisting and running away at every explosion; and as for attempting a charge at cold steel, the sight of the bayonets glistening in the sun would make their hearts burst with very terror.

A first success is often more ruinous to a man than a series of petty defeats, for the one gives him an overweening confidence which may lead to his utter destruction; the other teaches fortitude and the means by which misfortune is to be overcome; the parallel is true of a nation.

When the Mexican war was first commenced we told the people that our cavalry was in a state of utter inefficiency, but coming in contact with an effete race of men, and, if possible a more absurd race of horses than the people of the country; a country in which the owners of large stocks of horses preserve as stallions only those animals which are deformed by nature, and would not bring a remunerative price in the stock market;—to such horses and to such a race of people we were opposed, it is therefore not to be wondered at that our own deficiency was not exposed, so easy was our conquest. So determinately were all our friends of opinion that a war could not be brought about except with an inferior race, that a cold shoulder has been turned to all our efforts, and the tests of a horse's value have lost interest to all but a very few.

The great advantage of cavalry is, after the enemy's ranks have been broken by the fire of artillery or a charge of bayonets by infantry, for them to get among the men and prevent the reforming of the ranks, completing the temporary disorder and causing it to result in a total rout. To accomplish this result, horses and riders must be thoroughly trained, capable of performing every evolution with precision and rapidity; the horses must possess endurance, courage, and speed; the latter quality is as necessary as the two former, otherwise the important moment may have passed, ere the cavaliers reach the enemy's lines, and they in turn be met with a warm reception; for if charging a line of regulars prepared to greet them their destruction is almost inevitable, yet when brought to bear on militia the opposite result is nearly every instance to be anticipated, volunteers generally breaking before a body of cavalry as they do when charged by the bayonet; under such circumstances a well-organized body of horse are a most valuable auxiliary on the field of battle when you are opposed to raw recruits; veterans care nothing for a cavalry charge except when already broken, and then when the horse penetrate their lines and get between man and man, and commence the business of trampling them down while the riders use their sabres with terrible effect, then are the foot soldiers fully aware that their glory and honor is departed for that day, and their only hope of safety is in flight, which is at best but a poor recourse. The weight of the horses, the men, and their accoutrements, is a matter for very serious consideration. Horses could not be too large or heavy, provided they could have the proper speed and endurance, in both of which qualities the majority of large horses are lacking. If animals cannot in these days go faster than a trot, or a hand gallop, we might as well return to the use of the elephant as expect to derive any material advantage from a lubberly brute; therefore experience has taught that we must use a smaller, more compact, and purer bred horse. The English hunter comes nearer to the standard of what a cavalry horse should be than any other animal of which we have cognizance; he is very nearly thoroughbred, possessing all the virtues of the latter except extraordinary speed, but this defect is counterbalanced by an increase of stoutness. The next point for our consideration is the size and weight of the men. In former days it was customary to select the largest, strongest, and longest-limbed men that a country would afford, but recent experiments have shown that much lighter and smaller men could be used to a greater advantage; that 145 pounds is the maximum for a rider; that himself and his accoutrements should not weigh more than 170 pounds.

Foot-Rot in Sheep.

John Johnston, the well known farmer of Geneva, N. Y., tells the *Boston Cultivator* how to cure foot-rot in sheep:

Take finely-pulverized blue vitrol—the finer the better—make it into a salve with lard, butter, or honey. After cutting away every particle of the hoof that has become detached by suppuration,—if some blood is drawn no injury will result from it,—apply the salve freely, and I will warrant that in less than five days the sheep will be sound, provided the detached hoof has all been cut off. But it is safer to apply the salve at different times, say two or three, at intervals of four or six days, examining carefully at each application to see that none of the detached hoofs is left on the foot. To cut this entirely away is indispensable.

The best way I have found to pulverize the vitrol, is to hang up an iron pot by a rope or chain, put in a half a pound of vitrol; then put in a cannon ball, and take hold of the pot with both hands, and give it such a motion as will cause the ball to roll on the vitrol, and it will soon become pulverized. The vitrol will require to be loosened up from the bottom of the pot once or twice.

No better cure for foot-rot need be desired than this, provided the application be thorough; but if the land is wet, or foot-rotten sheep have been pastured on it long, it will be safer to remove the sheep as fast as they are cured, because the foul land will again inoculate them.

Cure for a Jibing Horse.

DEAR SPIRIT:—I noticed a novel cure for a fit of "balks," applied to a horse yesterday, and would like to inquire of any of your readers skilled in equineology, if they can explain it. A fine iron gray horse, about 16 or 17 hands high, and weighing probably 1,200 or 1,300 lbs., with a fine, large, open forehead, and bright, clear eyes, showing no sign of vice or stubbornness, was coming up street harnessed to a light, open, express wagon, and at a corner suddenly balked, and could not be persuaded to move; his driver then tried the usual remedy for careless, brutal drivers, viz., a tremendous flogging, with a barrel stave. The poor animal evidently could not understand the operation, and showed no sign of vice, but stood still, with his head turned back, and his ears put forward, starting at each blow, but not rearing or kicking. The brute who was driving him, kept up his cruelty for at least ten minutes, until a bystander stepped forward and offered to start him, and the driver rather surlily consented. The gentleman went up to the horse and quieted him by patting and soothing, and then stooped down, and gathering a handful of dust from the roadway thrust it into the horse's mouth, and then taking him by the head, the animal, whom coaxing, pounding, and flogging had failed to move, stepped off as quietly, and docile as a lamb. The cure was entirely new to me and I thought it quite a valuable one. The almost universal mode would have been to flog, and hammer until either the two-legged or four-legged brute got tired.—J. R. S. *in Spirit of the Times.*

THE LAST OF THE PLEURO PNEUMONIA.—The *Boston Journal* states that the remainder of Mr. Chenery's herd, consisting of sixteen head of cattle, have been slaughtered. About half of the animals were found to be diseased.

THE POULTERER.

Fattening Poultry in France.

France is one of the great, if not the greatest of poultry-raising countries in the world. Recent statistics place the number of her laying hens at 30,960,000, producing 3,715,200,000 eggs, valued at $29,721,600. Add to this the value of cocks, pullets and capons, estimated at $6,854,400, and we have the entire value of poultry in France—36,576,000. Paris annually consumes 8,784,243 lbs. weight of eggs, and in many parts of the country they constitute, along with bacon, the principal food of the inhabitants. There are, in addition, $120,000 worth of poultry and eggs annually exported from France, besides large exportations to Russia, Spain and Switzerland.

The forcing process is much resorted to in fattening, a brief description of which will be interesting as well as suggestive to our farmers who have commenced preparing their fowls for market. Birds at the age of seven or eight months, are selected, and the operation commences in October. A series of boxes or frames formed of rough timber are placed on the barn floor—one portion of the covering fixed, the other movable—for the purpose of putting in and taking out the fowls. Six of them are placed in each box. *No light is admitted from without, and very little air.* The paste cakes, or *patons*, on which they are to be fattened, are composed, one-half of buckwheat meal, a third of barley meal, a sixth of oat meal, the coarse bran being removed.—Every day this substance is steeped in milk in the quantity necessary for two meals. Some add to the paste a little lard, particularly when the treatment is drawing to a close. Being neither too hard nor soft, it is easily rolled in small cakes, or *patons* nearly in the form of an olive, and of a size adapted to the throat of the fowls.

The times of feeding require to be strictly attended to, and the poultryman or feeder, aided by the light of a lamp, takes three fowls at once, ties them all together by the feet, and rests them on his knees. He then makes them

swallow a spoonful of water or whey, (although this is occasionally dispensed with,) inserts a *paton* in the beak of each, and gently slips it downwards by the pressure of his forefingers and thumb, rubbing his hand along the neck till the food reaches its destination; this prevents it being rejected. The time required for this in each case affords sufficient leisure for deglutition in others. During the first few days only a small number of patons are given, but they are gradually increased till each dose consists of a dozen or fifteen. They are dipped in water before they are administered, in order that they may be more easily swallowed. By this process some fowls are fattened in six weeks, others take two months; the time depends on the constitution of the animal and its degree of strength. Some cannot be brought to the desired plumpness without risk, and in such cases the feeding must be interrupted or modified as the occasion seems to demand. It is calculated that some fowls consume twenty litres of meal, others one-half more. Two feeds must be regularly given in the twenty-four hours, and the diet indicated must never be altered in its composition. A curious feature in the process is, that the feeding-house must never be cleaned, the fowls have no litter under them, and their dung is never removed. The highly azotized emanations which prevail in the feeding-house are considered necessary to assist the fattening process, although they are disagreeable to the attendants, and not seldom injurious to their health. The fowls are never subjected to any mutilation, as is the case with capons, and often with fowls fattened in other ways. The finer specimens of poulardes attain a weight of upward of eight pounds, the cocks thirteen pounds, and these weights are sometimes exceeded. This process is called "Gallinoculture," and is universally practiced in France. Another method of forced-feeding consists in causing fowls to swallow by means of a funnel inserted in the mouth, farinaceous substances in a liquid state. When all is ready, the fowl is seized by the wings near the shoulder, the head held forward between the knees, and grasped by the left hand, while the right holds the funnel, opens the beak, introduces the instrument into the gullet, and the proper quantity of the mixture is poured in. This treatment is kept up for fifteen or twenty days, when the birds are ready to kill.

Hens Eating Eggs.—A writer in the London *Field* says that hens eating their eggs is often owing to the form of the nest, and suggests that the proper form is that of a plate, shallow, that she may not have to jump down on the eggs, and flat at the bottom, so that when she treads on them they will roll aside, and let her feet slip easily between them. She can then pass her bill among them, as she tucks them under her, and shuffle them together with her wings without hurting them.

THE BEE KEEPER.

Wax Moth, (Gallaria Cireana Fubricius).—The Destroyer of the Combs of the Honey Bees.

This pernicious insect was well known to the ancients. From the earliest period in which the light of natural knowledge dawned, this class of insects has obtained considerable attention. The oldest records on this subject are to be found in the sacred writings. Moses had acquired a slight knowledge of the science from Egyptian sages, and amongst the obsolete works of Solomon, he is said to have treated of insects. Hippocrates who lived about five hundred years before our Saviour, (as we are told by Pliny) wrote about these destructive moths. Aristotle flourished in the succeeding years. He wrote a history of this moth.—Whatever might be the merits of this great man, and his acquaintance with the science of nature, was the produce of undivided genius. Among the Greek writers, who immediately or within a few centuries followed Aristotle, treating on these moths, were Democritus, Neoptolemus, Philistes, Nicander, and Herodius.—These writers were probably cotemporary with Pliny; and during the same period several Latin writers seem to have been induced to pursue this science, through the influence of the Greeks, who were insensibly led to it from attending to the culture of honey bees, which at that time was attended to with the most enthusiastic ardour. Aristamachus, of Soli, is said to have written on the subject, from the result of fifty years experience: Philisus to have employed his whole life in forests and deserts attending to their history.

When we reflect on the slow manner in which all human knowledge is developed, we are readily convinced that the science of nature must have made considerable advancement since that time; and that we have derived considerable assistance from the works of more recent naturalists.

In Europe where the culture of honey bees form an occupation with a considerable portion of the inhabitants, the moth is very destructive. Its ravages in this country are very great; so much so, as to discourage many from prosecuting their culture.

It is a most notorious despoiler in the combs of the honey bees; it not only robs the combs of their nectar stores, but scatters the terrified bees in every direction. The fact is very singular and strange, that an insect, without shield or sting, should be capable of contending successfully with a whole horde of insects, armed with the weapons of defense.

Nature has provided them with an instinct to prepare the best and surest means to defend their stores. For this purpose, they select from the colony a number of the strongest bees, which they maintain and keep as senti-

nels to guard the entrance to the hive, whose duty appears to be to examine every bee that attempts to enter; if it is a member of their own colony, it is allowed to pass in, but should it prove to be an enemy, the soldiers on duty at once seize the intruder. The garrison is called to arms without delay, to aid the sentinels to exterminate the assassin. There are some biting the wings, some the legs, while a flying artillery are stinging and severing the head from the body, and at the same time a regiment in the rear are stinging with their poisonous weapons the enemy. When life is extinct, a loud humming may be heard in the hive, which noise indicates their victory over their enemy, they having made the fiend suffer the utmost penalty of their law, for trying to destroy every article of furniture of their fortress. The flying artillery now take charge of the body; when all things being ready, they march with it to the door of the hive, when it is cast out to be devoured by birds; then all the bees return to their respective quarters in the fortress.

By day these moths remain quiet on the sides and in the crevices of the hives, but if disturbed any time during the day they fly swiftly away; but alas, no sooner does the sun set and daylight shuts out the view, and evening twilight draws on—the moon rising in clouded majesty unveils her peerless light on the hives of the sleeping bees, there being no danger now of their movements being discovered, they enter the hive and deposit their eggs in the combs for their future progeny, that consists of several hundred vile worms; and woe be to the colony if they have not a sufficient number of sentinels on guard to drive the moths from the combs. By what magic spell are these moths protected from the vengeance of the bees; what is the malign influence it exerts over these industrious insects, noted for their promptitude of defence? We might suppose, when we recollect who is their teacher.

As soon as the caterpillars are hatched each one spins a silken tube for itself; during the day they remain quiet and concealed in their homes, but at night when the bees are sleeping and every thing being quiet, they come and pass safely and unseen in every direction, working their way through the combs, gnaw them to pieces and fill the combs with their silken webs, till at last the discouraged bees, whose diligence and power are no more use to them, cease to contend with their unseen foes. The soldiers, with their superior courage and powerful weapons are, compelled to abandon their perishing family and their ruined home, with all their stores in the possession of their terrible enemies.

What comfort may we derive under these vexatious losses? A familiar acquaintance with the bees in all their forms will afford much help. These wax moths have their appointed tasks, and are limited in the performance of them; but they are exposed to many accidents, through the influence of the elements, and fall a prey to numerous enemies. And if we examine and consider the structure of insects as well as the wise provision made for their lodgment and subsistence, we will find that all are the doings of a Being, infinite in power and fearful in working, and the religious philosopher will adopt such sentiments as David expressed when contemplating the formation of the human frame. Must we not also adopt such language as he made use of on another occasion and say, when reflecting on the manner in which these creatures are reproduced, and the wonders of that procreative power by which a continued succession is kept up; "Thine eyes saw them when they were made in secret and curiously wrought in the lower places of the earth." The business of generation must remain a mystery; we must, however, observe on the whole that each will be found most conveniently situated for its respective uses, and formed in the wisest manner for its various purposes.

Has not the Creator made the wax moth for one of the wisest purposes? For if the honey bees were as easily cultivated as the other branches of agriculture, and there should not be a sufficient amount of flowers during the season of their labors, they would be compelled to seek for sweets in every direction, even on the table of the husbandman—they would attack both man and beast, goading the latter perhaps to madness by their severe and incessant sting. So you can see that the wax moth only performs her own part in the economy of nature when her caterpillars destroy the combs of the honey bees.

There are two broods of these wax moths in a year; the first appear in May, the second in August. They lay from two to five hundred eggs. One thousand females will, on an average, produce in May, three hundred thausand caterpillars, and in August three hundred thousand more, making six hundred thousand caterpillars produced in one season. Say one half of this number when arrived at maturity are females, they will give ninety millions in the second, and thirteen billions five hundred millions in the third generation. Wax is their only food; a substance that cannot be digested by any other insect. The duration of their lives in the moth state is comparatively very short, seldom exceeding fifteen days. To increase and multiply is their principal business in this period of their existence, if not the only one; and the natural term of their life ends when this is accomplished. Various means have been suggested and tried to prevent these wax moths from depositing their eggs on the hive and in the combs of the honey bees. Bee houses have been erected on the most scientific plans, hives have been patented, and even additions made to the old-fashioned hives; but it does not seem that any have as

yet succeeded; to be surrounded by those circumstances is indeed lamentable.

Well, let us look about and see whether there are any means provided by nature to maintain the balance between the increase and destruction of these moths. In prosecuting the inquiry, we find that birds are a most valuable auxiliary to check the ravages of the wax moth. They devour them by thousands.—Which are the kind of birds so valuable? Why the wren, blue bird, king bird, summer red bird, Baltimore bird, and the scarlet tanager. Here is a whole class of birds which Providence has created for the protection of the honey bees that would otherwise blast all hopes of their culture.

They commit no depredations on the property of the husbandman, but benefit him by the daily destruction of wax moths and other noxious insects during their stay with us; and when winter approaches and the cold has driven the wax moths and other noxious insects to hybernate, even in this trying hour of necessity they never plunder the fruits or grains, but seek in a distant country for that subsistence which the severity of our season denies to their industry.—*American Farmer.*

Bee-Keepers Calendar for August.

In most regions, there is but little forage for bees during the latter part of July, and the first of August, and being, on this account, tempted to rob each other, the greatest precautions should be used in opening hives. In districts where buckwheat is extensively cultivated, bees will sometimes swarm when it comes into blossom, and in some seasons, extraordinary supplies are obtained from it. In 1856, I had a buckwheat swarm as late as the 16th of September!

If any colonies are so full of honey, that they have not room enough for raising brood, some of the combs should now be removed.—If the caps of the cells are carefully sliced off with a very sharp knife, and the combs laid over a vessel, in some moderately warm place, and turned once, *most* of the honey will drain out of them, and they may be returned to the bees, to be filled again.

The bee-keeper who has queenless stocks on hand in August, must expect, as the result of his ignorance or neglect, either to have them robbed by other colonies, or destroyed by the moth.—LANGSTROTH.

THE HORTICULTURIST.

A. G. HANFORD, : : CORRESPONDING EDITOR.

Bark Louse.

At the present writing, take your knife, cut the bark directly under the louse on the tree, you will find the road he has taken to kill the apple tree; with the help of a microscope you can see the maggots. Now for the remedy: some say throw salt on the ground under the tree, but whether this would not operate like the spirits turpentine on the man's horse. Another which I am told is sure, is to sow buckwheat under the trees, let it come up, get ripe, and fall down, and come up again, for two or three years.

Should this set scientific men at work, I would like to hear the result. J. C. LEWIS.

JUNEAU, Dodge Co., Wis.

Scientific Gardening.

While other professions have been thought worthy of all the development of American enterprise, gardening, which ministers at once to our moral and physical wants, has been sadly neglected; yet in our hearts we acknowledge that

> "The rose which lives its little hour
> Is prized beyond the sculptured flower."

It is the high province of horticultural associations to make gardening popular with all classes, and raise the social position of the gardener by directing his attention to botany, as well as landscape gardening. Some account of the origin of these two branches may not be uninteresting. Passing over the description of the garden of Alcinous, which had its origin in the imagination of "the blind old man of Scio's rocky isle," we find that Aristotle first imbued his disciple, Theophrastus, with a desire to study the nature of plants, and that Rome knew little of our science till the time of Dioscorides, who lived in the reign of Nero, and of Pliny, the naturalist, who died in the latter part of the reign of Titus. Pliny has given very full accounts of his own gardens. In the days of the Emperor Hadrian, Rome kept up vast standing armies upon her frontiers. Into these, to guard against the heat of July and August, they introduced long colonades and verdant cloisters, and hence arose the "Topiary art," so called from a Greek word meaning rope, since ropes were used to bend over the trees. The art, revived in Europe in the 17th century, was carried to such perfection that Casaubon tells of a specimen near Paris, representing the Trojan war, men, horses,

and all, being admirably represented by figures of living verdure. This art has now become well known through various treatises on arboriculture.

Our own expedition to Japan shows us the perfection to which that people had brought the process of dwarfing and enlarging shrubs at pleasure. Under the heading "Horticulture," we read: "In this department the Japanese were very skillful. They possessed the art in a wonderful degree, either of dwarfing, or of unnaturally enlarging all natural productions. As an evidence of the first, may be seen, in the miniature gardens of the towns, perfectly mature trees of various kinds, not more than three feet high, and with heads about three feet in diameter. These dwarfed trees are often placed in flower pots. Fischer says that he saw, in a box, four inches long, one and a half wide, and six in height, a bamboo, a fir, and a plum tree, all thriving, and the latter in full blossom."

The Japanese, in order to thus subjugate nature, must have studied deeply the science of botany; and I shall now attempt a slight sketch of the rise and progress of that science in Europe. During the middle ages, botany made little progress; but in the 15th century it revived, and Brunfels, of Mentz, Jerome Tragus, and Leonard Fuchsius, wrote the results of their observations in Europe. In the 16th century, Lecluse, called Clusius, described with precision plants that he had noticed; so also did Conrad Gesner, of Switzerland, Cesalpin in Italy, the brothers Bauhin and Magriol in France, and Ray in England. In the 17th century, the microscope was discovered, and by its aid Malpighi, so early as 1676, and Graw in 1682, discussed almost every question of vegetable structure. The 18th century produced Joseph Pelton, better known as Tournefort, from the name of his place. He first discovered the genders of plants, and classified them according to the presence or absence of the corolla. Next came Linnæus, of Sweden, who perfected and simplified the system of Tournefort. But the most perfect classification upon natural principles is due to Antoine Laurent de Jussieu, who published his great work in 1789.

This attention to the science of botany naturally led to the establishment of botanic gardens. The first of these was that of Pisa, in 1543. The first opened in France was that of Montpellier, in 1597. That of Paris was not erected till 1636. It now contains over 60,000 living plants. In imitation of this, every capital of Europe has now its botanic garden. Landscape gardening was introduced into France by Louis XIV, who employed Le Notre and La Quintinie in laying out the gardens of the Tuilleries and Versailles, about the same time that Sir Wm. Temple was describing Moor Park, and William III was teaching Swift to cut asparagus.

Then, too, was the Chinese school introduced into England. Kent was the father of the English school of gardening; Brown perfected it. But England is indebted to America for her choicest plants and trees. The London *Times* acknowledges this as follows:—"The private exhibition of American plants attracted a brilliant assemblage to Ashburnham Palace, the abundance of Rhododendrons producing a brilliancy of effect that could scarcely be excelled." The *Morning Post* speaks of a collection at Working as being the most extensive in England, and adds:—"Those who only know the Rhododendrons by the examples we see in our parks and public gardens, or in private, can form but a faint idea of the gorgeous splendor which a collection of many hundreds of that beautiful evergreen in full blossom and arranged with due regard to form and hue is capable of displaying." How humiliating to the American traveler must it be to learn the names of these gems of his native land from strangers, and to have a scientific knowledge of those trees which cause America to take a high place in the gardens and parks of Europe. I trust that some patriotic individual will yet establish a professorship in some of our universities, devoted to the study of American plants, and that a botanic garden may arise, where foreign and native-born plants may meet the eyes of foreign and native-born citizens, and, typical of the union of the offspring of two hemispheres, minister equally to the glory of the American union.—*Hovey's Magazine.*

American Pomological Society.

The ninth Session of the American Pomological Society will commence in the Hall of the Massachusetts Horticultural Society, corner of Washington and West streets, Boston, Mass., on Wednesday, September 17th, 1862, at 12 o'clock, noon, and will continue several days. All Horticultural, Pomological, Agricultural and other kindred institutions in the United States and the British provinces, are invited to send delegates as large as they may deem expedient, and all other persons interested in the cultivation of Fruits are invited to be present, and to take seats in the convention.

Among the prominent subjects to be submitted at this session will be the Report of the Special Committee appointed to revise the Society's Catalogue of Fruits, and thus to ascertain what varieties are adapted to the different sections of our country. The various State and Local Committees who have not already made their Reports on the revision are, therefore, solicited to forward them, without further delay, to P. Barry, Esq., Rochester, N. Y., Chairman of said Committee. And it is further requested, that all other Reports, which are by the by-laws made returnable to the General Chairman of the Fruit Committee, now

deceased, may also be addressed to Mr. Barry, as aforesaid.

Members and delegates are requested to contribute specimens of the fruit best adapted to their respective districts—to furnish descriptions of the same, their mode of cultivation, and to communicate whatever may aid in promoting the objects of the Society and the science of American Pomology.

Packages of fruits may be addressed as follows: "American Pomological Society, care of Mass. Hort. Society, Boston, Mass."

MARSHALL P. WILDER, President.
THOMAS W. FIELD, Secretary.

Ornamental Shrubs.

There is a growing taste for ornamental shrubs throughout the country, and the inquiry is frequent, What shall I plant?

Brief descriptions of some of the most desirable may serve to aid the inexperienced in selecting for new plantations or adding to old ones. Some will be valued for fine foliage, form or habit of growth. Others for the beauty of the flowers or for fragrance or all these combined. Some have very showy fruit, while the autumn foliage of others gives them a dazzling splendor. Those who love or wish for beautiful grounds about their houses, should make themselves acquainted with ornamental shrubs.

Double Dwarf Almond.—A beautiful shrub, loaded in early spring with the elegant flowers resembling small double roses. With the shelter of other shrubbery it will endure perfectly the winters of Wisconsin, but when fully exposed, is apt to kill back half of previous year's growth. There is a pink and a pure white variety, the latter is quite scarce.

Berberry.—The deciduous species are all neat and pretty in foliage, flowers and fruit. Flowers in pendant vacums of deep orange and yellow succeeded by clusters of scarlet fruit. The evergreen berberry (Mahonia Aquifolia) is one of the hardiest evergreen shrubs attaining the height of about four feet and is spreading. The young leaves are very green and glossy, flowers yellow and fragrant, berries purple. The Mahonia will thrive in the shade and needs to be protected from the sun in winter.

Colutea or Bladder Senna.—A tall growing shrub with pretty foliage and orange colored pea shaped blossoms, succeeded by very curious bladder like fruit; needs protection in Wisconsin.

Daphne or Pink.—Of neat habit, blooms early in spring before the leaves are out, sweet scented, succeeded by brilliant scarlet berries. It thrives best in a dry soil and needs protection in Wisconsin.

Deutzia.—Very beautiful profuse white flowering shrubs. *Deutzia Scabra* is tall growing and large flowering. *Deutzia Gracillis* is quite dwarf and small flowering, is fine for pot culture, blooming in early spring, this last is not quite hardy in Wisconsin, but does well with a little protection.

Weigela Rosea.—A very pretty shrub from Northern China, neat foliage and a profusion of rose colored flowers in spring, it is becoming very popular, it is called hardy, but needs some protection in Wisconsin, it is well worth this trouble.

Honeysuckles Upright.—Tall growing shrubs bloom profusely in early spring, the wood of the red and white flowering varieties is white and very conspicuous in winter, producing a fine effect among other shrubs. The pink or striped flowering is the prettiest of this class. All are hardy and should be in every collection.

Philadelphus or Syringa.—Several varieties, most are tall growing shrubs, all have white flowers, very handsome and most of the varieties are fragrant. They are all extremely hardy and flourish in most soils.

Japan Quince.—Has bright scarlet crimson flowers in great profusion in early spring, very showy. Makes a fine ornamental hedge.

Spirea.—Of these there is a large family, elegant low shrubs of the easiest culture. The following are hardy in Wisconsin, and are particularly desirable: *Prunifolia*, double flowering plum leaved; *Obovata*, obovate leaved; *Ulmaria*, elm leaved; *Sorbifolia*, sorb leaved; *Salicifolia*, willow leaved; *Thalictroids*, meadow rue leaved; *Lanciola*, lance leaved, *Billardei* and *Callosa*, the last named may not prove

perfectly hardy in Wisconsin, it is well worth trial and all the trouble that may be necessary to protect it.

Tamarix.—A graceful shrub with foliage resembling the Juniper and delicate small pink flowers in spikes, there are several varieties. The African is the most hardy, and this will require protection in Wisconsin.

A. G. HANFORD.

COLUMBUS, Ohio, July, 1862.

Grape Grafting.

The following is a postscript to a letter, received a few days ago, from our much esteemed old friend, whose name is signed to it. His success in grafting the grape, is very gratifying:

"Shall I inform you of my success in grafting the grapevine this spring? This morning I set grafts of the last two varieties on hand. I grafted the first about the middle of March on to the beginning of April, then stopped until about the middle of June; then, as time would permit, stuck in a few occasionally until this day, 2d July—all in the roots, or in branches laid under ground. Many of the grafts have already made a growth of four inches to four feet, *one* is bearing a cluster of fruit; and some of them grafted ten days to two weeks, are pushing already. Of about one hundred grafts set, at least eighty will grow; and of these one hundred grafts, representing thirty varieties, I will have *every variety* to grow!

"*Last year's grafting are now strong plants, bearing from one to a dozen bunches of fruit.* By this mode of propagation a new variety may be fruited the second year for certain; while in planting the delicate, forced pot plants we must wait four to six years before fruit can be looked for. 'Time is money' in more ways than one."—J. B. GARBER, *in Ger. Telegraph.*

TOBACCO AND ASHES FOR INSECTS.—In the *Rural* of June 21, I find a question asked, and partially answered, concerning the gooseberry and currant worm, and the way to exterminate them. The saw fly lays its eggs on the underside of the leaf, along the stem, where they remain until hatched into the worms. Another insect I find on the currant leaf, which makes the leaf curl, the same as the leaf of the snowball tree. My experience with the above has proved effectual, as follows: I purchased 25 pounds of tobacco stems at the tobacco manufactory, at the cost of one penny per pound, put in a barrel filled with water, let stand twenty-four hours, then took a pailful, and with a broom switched the juice on the gooseberry bushes, which were literally covered with the worms. After getting them wet with the juice, then sprinkled with dry, unleached ashes, on the bushes and on the ground underneath. This has proved to me satisfactory, as well as in the case of a little black fly on a small cherry tree. It has exterminated them in every instance. I may be asked if the preparation will not injure the bushes. Instead of doing an injury to the bushes, it is good and healthy for them. The leaves were eaten all off my gooseberry bushes two weeks since, and now they have a healthy and thrifty appearance, with new leaves on them.—G. W. H., *in Rural New Yorker.*

Early Apples.

It is a matter of regret, that most of our early apples are quite tender in tree, and very particular in choice of location in the orchard. So much is this the case that there is not a due proportion of early apples in successful culture in the Northwest. But on the other hand it is true that comparativeiy few *early apples* are required in a collection for home consumption, as the luscious plum and delicious blackberry are usually on hand to keep up the feast to pomona. We may well afford then to use all the requisite care and labor in selecting and planting a few of those very choice early varieties which are not fully hardy in the ordinary orchard and garden grounds, and among the list we enumerate the Early Harvest, Carolina Red June, Williams' Favorite, Sweet Bough, Early Strawberry, and some other old and very fine varieties. These all can be successfully grown on high and very dry locations, if open to a free circulation of air on all sides. To illustrate, we could point out a dozen cases where these half hardy and tender sorts are this day flourishing finely on the extreme summit, or northern slope of some ridge; while scarcely an instance is to be found of their being rarely successful on an opposite and sheltered aspect.

Again, we find among our notes of observation made in Jefferson Co., that of a healthy, vigorous Early Harvest tree, the only one left of some half dozen planted at the same time in the same row, and the simple secret of *its* success, was the fact of its being planted on the top of an ancient mound, some two feet above the general surface. Here we have a

lesson, the moral which is easily told. In some one of the simple ways of mounding or ridging, prepare a location especially for the valuable half hardy and tender fruits, if you have it not ready prepared by the hand of nature.

Thorough drainage and free circulation of air, is the basis of success; starting of course upon good soil, never forgetting to give thorough culture. J. C. PLUMB.

Duchesse De Angouleme Pear.

Much attention is being paid to the cultivation of the pear,—and we almost doubt if it will not ere long supercede that of the apple. There are sorts, apparently as hardy, bearing equally as well, and the time of coming into bearing is no more tardy than with an average lot of apples. This varies with all fruits. A Northern Spy Apple will frequently scarcely come into bearing in ten years from planting, while Perry Russet, St. Lawrence, Fameuse, &c., frequently have full crops in *two* years, and seldom go more than four for the first returns. The same difference is apparent in the list of Pears. The one under consideration is of the tardy sort. It should never be planted worked upon the pear stock—but as a dwarf upon the quince—its slow nature may be much improved. The quality of fruit is beyond dispute, and unquestionably it will prove valuable as a dwarf in large collections; but its tardy bearing qualities will not commend it to the amateur.

We are indebted to Emery, of the *Prairie Farmer*, Chicago, for the above cut, and others we may use hereafter, in whose excellent paper we find the following description of this pear:

"A magnificent large dessert pear, sometimes weighing a pound and a quarter, named in honor of the Duchesse of Angouleme, and said to be a natural seedling, found in a forest hedge, near Angers.—When in perfection, it is a most delicious fruit, of the highest quality. We are compelled to add, however, that the quality of the fruit is a little uncertain on young, standard trees. On the quince, to which this sort seems well adapted, it is always fine. The tree is a strong grower, the shoots upright, light yellowish brown, and it is deserving trial in all warm dry soils.

"Fruit very large, oblong-obovate, with an uneven, somewhat knobby surface. Skin dull greenish yellow, a good deal streaked and spotted with russet. Stalk one to two inches long, very stout, bent, deeply planted in an irregular cavity. Calyx set in a somewhat knobby

basin. Flesh white, buttery, and very juicy, with a rich and very excellent flavor. October.

"The quality of the fruit is often injured by the excessive *luxuriance* of the tree. This should, in such cases, be obviated by root pruning."

Trees of this sort on the quince are doing remarkably well in this locality, and promise ample returns. O. S. WILLEY.

MADISON, WIS.

APHIS ON ROSES.—Please inform me through the *Rural* how to destroy lice on roses? By so doing you will confer an exceedingly great favor upon one of your readers. C. W.

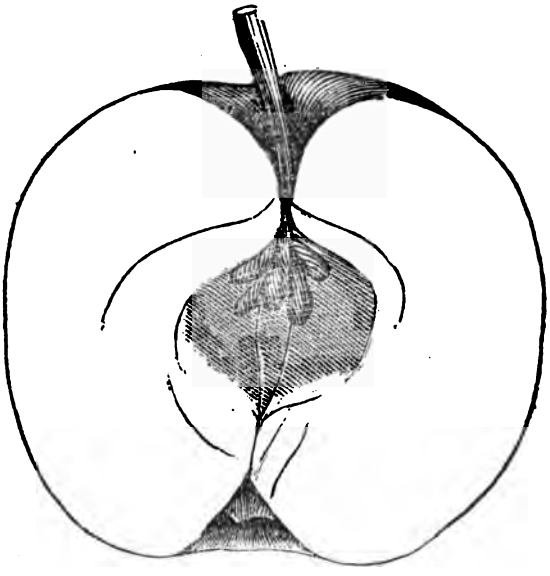
Tobacco water and soft soap applied faithfully will destroy the insects. Tobacco smoke will accomplish the same end. First cover the bushes with a barrel or cloth, to confine the smoke. Afterward sprinkle the bush with clean water.—*Rural New Yorker.*

Early Apples.—Hardy Varieties.

While the vicissitudes of our climate render some excellent old varieties quite uncertain in the Northwest, there are still enough old and new sorts, very hardy and of excellent quality, to answer the general public want.

Among these the Red Astrachan stands without a rival as very early, handsome and hardy. The Sweet June and Summer G. Sweet, though not very hardy, are generally successful, on dry soils. The Summer Rose, Early Pennock, Early Red, Sops of Wine and Duchess of Oldenburgh, are all quite hardy and suited to general culture as early apples.

The Fall Stripe is a variety of more recent introduction, and for which we claim a large share of public favor in the description we give below, but fully, and more fully sustained in our claim by the testimony of those who are growing it in the nursery, and fruiting it in orchards north of this. The specimen from which we made this drawing, was grown by M. M. Bartholomew of Lodi, Columbia county, who has 30 trees bearing size, and says of it "Not extra."



FALL STRIPE.

Vigorous, beautiful grower, extremely hardy, great and early bearer; fruit, medium size, nearly round, uniformly fair, tender, aromatic, sub-acid flavor, which takes everywhere; season, August and September; for family and market; unequalled in all qualities of tree and fruit by any of its season. J. C. PLUMB.

A Few More Garden Hints.

A good garden should always abound in all the vegetables that can be grown, throughout the season. For instance, it is still full time from now up to the 10th or 15th of August—perhaps the earlier the better—to sow the yellow radish, turnips of all kinds, picking cucumbers, beets, beans, &c. Lettuce to head should be sown at once, also in the latter part of August to get plants for hot-bed setting out, or in ridges in open culture for early spring heading. The black Spanish radish should be sown for winter use: this can go with the purple-top turnip, sown at the same time broadcast. Celery can still be set out, from good strong plants. Endive plants should also now be set out, but at best this makes a poor, indigestible salad.

We take it for granted that everybody has mowed off his strawberry vines, leaving the tops spread over the beds to protect the roots

from the July and August suns, so damaging to most varieties, and generally has removed the growth of all old crops of vegetables that have matured and been left unused. At all times should the garden be freed from weeds, *debris*, and unnecessary overgrowth. Gardens usually, at this season, wear an unattractive appearance, but they are from neglect made much more so than they ought to be.

Bear in mind, too, that *stirring the soil* frequently, as long as the crop is growing, will insure a fair yield, even against severe drouth. —*Germantown Telegraph.*

SCIENCE, ART, STATISTICS.

Domestic Fish Pond.

A correspondent of the *Homestead* (Hartford, Conn.,) gives the following account of making a fish pond:

Three years ago I constructed in a ravine a fish pond, covering a surface of about three fourths of an acre. It is fed by four small springs, and receives a large amount of surface water from the slopes around. It is fifteen feet deep at the greatest depth, and has shallow bays and inlets, where the small fish may breed and find protection from larger ones. It contains a small island and the shores are embellished with flags, (*Iris*) water lillies, (*Nymphæ odorata*) and other water plants. It was stocked with yellow bass, Oswego bass, white perch, and every variety of sun fish and minnows, also a dozen gold fish (*Cyprinus aurotus.*)

And now, at the end of three years, it is astonishing to note the vast increase in my scaly family. They have multiplied by hundreds, and grown in size beyond all my calculations. The gold fish number several hundred, some of them over a foot in length, and a few of them are beautifully marked with silvery sides and red fins, head and tail; others with golden sides and black fins and tail. I had no idea that they would thus sport in colors, but certainly they are very beautiful. The other fish have grown so much, that I intend to commence using them for the table in autumn.

I have not fed these fish except for amusement and to tame them, when a few crumbs of bread are thrown in, from a small bridge connecting the island with the shore, and the fish called up like chickens. The sun fish, gold fish, and smaller fry soon learned to come at my call, and to follow me in great numbers, from one end of the bridge to the other, for their morning or evening meal.

The young bass (the old ones hold back) and the sun fish dart to the surface for their food, and have a lively scramble for it; the gold fish pick up what sinks to the bottom.—Their habits in this way are very much like a flock of chickens, for some of the smaller fish take their position immediately under my feet to pick up the small crumbs that fall in breaking the larger ones to throw out. Some persons ring a small bell to bring their fish up, but I prefer calling mine. They do not appear to come from a greater distance than about forty feet to any one point.

I feed them in several places, to note the varieties and their growth. Now, as to the utility of this pond; it furnishes ice for my own use, and three or four of my neighbors, who have icehouses; it also affords an excellent stock of water, and will doubtless hereafter supply my table with fish. A small boat on its surface gives many a pleasant hour of recreation to the young who are fond of rowing.

The construction of this pond was very simple. The earth was excavated across the ravine four feet deep and five feet wide for a foundation; then stiff clay filled in and well pounded, to prevent leakages at the bottom.—The earth from the bottom and sides of the ravine was thrown on the top of this foundation, to raise the embankment to the proper hight.

A waste weir at one side, paved with flagstones, and two feet lower than the top of the dam, sufficiently large to carry off the heaviest flow of water in very heavy rains, guarded by a wire screen to prevent the escape of the fish, completed the construction. It is now sodded over, and planted with willows at the foot, and is considered safe. The expense of making such a pond is small, and it adds much to the value of the farm.

Disinfecting Agents.—Now that the warm weather is upon us, our citizens should thoroughly cleanse their premises, rendering them as pure and healthy as possible. We are convinced that a great portion of the disease so prevalent during the hot months in summer, is attributable to the accumulation of filth in alleys and yards. There are a number of disinfecting agents which will be found efficacious in removing offensive smells from damp, mouldy cellars, yards, pools of stagnant water, decaying vegetable matter, &c. Either of the following will answer the purpose, while they cost but a trifle:

1. One pint of the liquor of chloride of zinc, in one pailfull of water, and one pound of chloride of lime in another pailfull of water. This is perhaps the most effective of anything that can be used, and when thrown upon decayed vegetable matter of any description, will effectually destroy all offensive odors.

2. Three or four pounds of sulphate of iron (copperas) dissolved in a pailfull of water will, in many cases, be sufficient to remove all offensive odors.

3. Chloride of lime is better to scatter about damp places, in yards, in damp cellars, and upon heaps of filth.—*Scientific American.*

Foretelling Storms.

The *American Railroad Journal* in an article referring to the late disastrous rain storm and freshets in Pennsylvania and New York, says:

The science of meteorology has now arrived at such a pitch that every general violent storm, such as that of Wednesday week, can be predicted with almost absolute certainty twenty-four hours in advance. By means of the telegraph, this information might be communicated to all parts of the country in a few minutes, so that signals could be displayed along the coast, while in the interior, works could be put in a state of readiness to receive the expected visitor. Every reservoir could thus be run dry; every canal be lowered; even the boatmen could be forewarned. A large number of valuable lives perished during the late freshet, every one of which might have been saved to their own families and the community at large.

We are here making use of no reckless assertions. The experiment of "forecasting" the weather has been tried in England. It is conducted on strict scientific principles by a Department under the supervision of Admiral Fitzroy. To defray the necessary expenses in connection with it, the British Government makes a small appropriation annually. A leading English journal remarks that this invention has already been the means of saving hundreds of lives annually. It is admitted on all hands that though Fitzroy has made frequent mistakes as to the *local* gales, yet that no great general storm has visited the country during the past year without being heralded for several hours in advance by the display of signals along the coast, warning seamen to keep off shore or not to venture out for the time being. In this country, owing to uniformity of our general coast lines, the laws of the storm will doubtless be found more simple than in any part of Europe.

India-Rubber Cloth.

Another achievement has been made in operative chemistry, which deserves notice, because of the many useful applications of which it is capable, as was fully explained in a paper read before the London Society of Arts by the inventor, Mr. Frederick Walton. The achievement consists in a process by which India-rubber can be produced and manufactured from linseed oil. This oil is plentiful and cheap. We import as much linseed every year as will yield about 60,000 tons of oil, and this, when converted into artificial India-rubber, would be saleable at about half the price of the real article. A notion of the process may be formed by persons who have noticed that linseed-oil when spilt dries in a thin, tough film, and that a similar film forms on the surface of a quantity of the oil when left for a time undisturbed. Mr. Walton takes a mass of these films, mixes a small portion of shell-lac therewith, crushes them, subjects them to a course of rolling at a high temperature, and so produces a substance which closely resembles India-rubber, and is applicable to as great a variety of purposes as caoutchouc itself, and to many of those for which gutta-percha is now used. To notice but a few of its applications; we find clothing, water-proof sheets, tarpaulings, carriage-fittings, saddlery, imitation leather, shoes and boots, printer's blankets, tubing, tank-lining, ship-sheathing, knife and tool handles, picture-frames, and all the articles which are now fashioned of vulcanite and ebonite. The usual way of preparing the so-called American leather cloth involves a period of seven days; with this new substance, a much greater quantity of the cloth may be prepared in one day.

THE MINER.

J. MURRISH, : : : CORRESPONDING EDITOR.

The Business of Mining.

[CONTINUED.]

Another class who object to mining becoming a lucrative and permanent branch of industry, contend, that the general geology of the mining region, and the character of our mineral veins forbids it. This is one of the most important questions connected with the subject of mining. This subject we purpose to discuss in this department; and before it is decided one way or the other, it ought to receive the most careful, disinterested examination that can be had. We have, perhaps, all the information we shall have from scientific men on this subject; and it is just for us to say, we have much valuable information on this subject, from men competent to discuss this matter, notwithstanding their limited means of obtaining information. But what we need now is practical information, information from those who have enjoyed the best and unlimited means of observing the phenomena, and collecting the facts and illustrations which nature has furnished. There is a possibility of our becoming a little too scientific in these matters, making phenomena, and even facts bend to some cherished theory, instead of forming our theory from plain simple truths.

I would appeal through this department

(which we call our own) to the practical miners throughout the mining region, for what information they possess on this question.—Whether it be for or against; in favor or otherwise; let it appear and be faithfully recorded. We have no interest in this matter but to know the truth. It does not require a thorough knowledge of geology or mineralogy to collect the required information. That kind of information most important in deciding this question, is that most apt to elude the investigation of the theorist and escape the notice of the geologist; and is detected only by the observing practical miner, whose business it is, not only to observe, but to follow these facts and phenomena through all their windings. It is true he may not be able to give them a name, or their right place in a system. He may not be able to tell which class they belong to, cause or effect. He may not be able to describe the relation they bear to each other, but he will recognize instinctively the features of a good mineral-bearing rock, or a productive mineral vein. Geology is of immense importance, while laboring in its own sphere; that is in determining the nature, age, and relative position of the rocks, with their fossel remains; but when it undertakes to theorise upon mineral veins, with imperfect data, it enters upon a work for which—as a science—it has no rules. "The experience of the past," says Prof. J. D. Whitney, in our last report, p. 90, "is after all, the surest guide in all matters connected with mineral deposits. Hence the immense importance in every mining country, of keeping as perfect a record as possible of all the discoveries which are made, and of the peculiar conditions met with."

On the general geology of the mining region, much has been written and published in our geological reports; but this information is confined to the members of the legislature and their friends, consequently of but little benefit to the mining community. Hence the importance of such like information in this department, for the benefit of all concerned. Besides there is much information of practical importance, which our geological reports fail to furnish, that we wish to obtain, and publish here. This subject will receive our attention in our next.

Lake Superior Iron—Amount and Quality.

The Lake Superior *Journal*, in speaking of the future shipment of iron ore, says:

Some idea of the vast iron interests of this region may be formed by our readers in the East, when we state the settled conviction here is that *one hundred and fifty thousand tons* of iron ore will be shipped from our docks during this present season of navigation. This is not the chimera of a vivid imagination, but a sober estimate founded on facts and figures.—Indeed, we have reason to believe the estimate is too low, for the following reasons:

1st. The calculation is partially based on the shipments of last year, and we know how depressed the iron interest was then.

2d. The indications are that this season will be a highly prosperous one for iron, on account of the more settled condition of the country, and the new uses to which this metal is being constantly put, such as building ships, houses, and the like.

3d. Already, before the season is fairly opened, nearly that amount (one hundred and fifty thousand tons) has been contracted for, to be delivered in Cleveland, Erie, and Buffalo.

To carry away this product of our iron hills at one time would—allowing two hundred tons each—require *seven hundred and fifty vessels*, a fleet about as large as the navy of Great Britain. This, we think, will give our readers some idea of the vast wealth yet stored away in this region, and as yet untouched.

The same journal also tells us that—

During the past week Marquette and the iron mountains beyond have been visited by Mr. Blackwell, of London, and formerly Vice-President of the Grand Trunk of Canada. He is a gentleman of high scientific attainments, and came here, at the solicitation of a large iron company in England, to examine the iron mountains and their value, and what advantages are offered here for manufacturing the ore. The company desired to find out whether the reports which had reached England about the quantity and quality of Lake Superior iron are true; and, if so, why so little is being done by capitalists to bring it forward. Also, what advantages we possessed for manufacturing the ore: and whether it could not be shipped to England.

Mr. Blackwell visited the mountains in company with two or three gentlemen interested in the matter. He was surprised at seeing the vast piles of ore yet untouched, and says that there is not another such deposit upon the globe. As to quality, he pronounces it equal to, or better than, the Russian; and says that,

if we only took as much pains to produce a good article as we take to produce a large amount, this Lake Superior iron would drive the Russian from the market. He says, also, that steel can be made from it, of as good a quality as that manufactured from the Swedish iron, so extensively used in England; and all that is needed here is money to manufacture it.

Tin Mines of Cornwall.

In our department for May, a short article on "Ancient Tin Mining," reminded me of a period of my history, when this subject was to me one of great interest; and to the study of which I devoted a great deal of time. I was born on that very spot that supplied the earlier ages of the world with this commodity; and often when a boy played among those old mines, worked ages before the christian era. A few pages from my old papers on this subject may not be altogether void of interest to those interested in our mining department; especially as this subject will throw some light on the early development of one of the best and most productive mining regions of the world.

Tin in the present day is, and indeed always has been, save in a very few places, a very scarce metal; and found in but very few places in the world in sufficient quantity to pay for mining. It is found in the mountains between Saxony and Bohemia; also in those between Gallicia and Portugal. India, Mexico and Chili, have also furnished a limited amount. But the great source whence the commerce of the world, in ancient and modern times, have received its supplies, is the county of Cornwall in England. Here very rich veins of the peroxyd of tin are found; and tin mining has been an important branch of industry, and a great source of wealth from the earliest settlement of that country. When I left that part of the world in 1848, the average amount might be estimated at about 4,000 tons a year, worth from $300 to $400 a ton.

But what gives to this subject its peculiar interest, is its great antiquity. Along the path that leads back into the history of the past, even back into the remote ages of the past, we are often called aside to notice the tin mining of Cornwall. Over nineteen hundred years ago, Diodorus Siculus, an eminent author, placed upon record the following reference to this subject: "They that inhabit the British promontory of Bolerium, by reason of their converse with merchants, are more civilized and courteous to strangers than the rest are. These are the people that make the tin, which, with a great deal of care and labor, they dig out of the ground; and that being rocky, the metal is mixed with some veins of earth, out of which they melt the metal, and then refine it. Then they beat it into four-squared pieces like to a aye and carry it to a British isle, near at hand, called 'Ictis.' For, at low tide, all being dry between them and the island, they convey over in carts abundance of tin in the meantime; hence the merchants transport the tin they buy of the inhabitants to France."

Bolerium is evidently Cape Cornwall, or the Lands End. It is so marked in the map of Ptolemy, and other ancient geographers. This, with the fact that this is, and has been for ages past, the great tin district of Cornwall, ought to settle beyond doubt, that this is the place referred to. There has been, however, a difference of opinion among antiquarians in reference to the place called "Ictis" by this author. Some contend it is the Isle of Wight, others that it is St. Michael's Mount; but any one who has been in that part of the country would not for a moment hesitate to pronounce in favor of the latter place. Its semi-insular position and close proximity to the Lands End establishes its claim. [CONTINUED.

THE ROCK OIL BUSINESS.—The Oil City *Register*, published at the great center of the oil trade, gives the following table, showing the number of wells now flowing, etc., on Oil Creek:

Number of wells now flowing,	75
Number of wells that formerly flowed and pumped,	62
Number of wells sunk and commenced,	358
Total,	495
Amount of oil shipped, bbls.	1,000,000
Amount on hand to date,	92,450
Present amount of daily flow,	5,717
Average value of the oil at $1 per bbl.,	$1,092,000
Average cost of wells, $1,000 each,	495,000
Machinery, buildings, etc., from $500 to $700 each,	590,000
Total number of refineries,	25

MECHANICAL & COMMERCIAL.

Machinery.

Thousands of machines have been invented by the ingenious and thoughtful, but their value are not half realized among those that most need them. Is it because they do not know the value, or that they are labor-saving? Or is it because they think I am not able. But when I get able I will buy a sewing machine. How often this remark is made, and among those that have a farm and a comfortable house and several to clothe and sew for. Let me ask you my good friends, When will you be able? are you not able now? are they not in your reach? have you a healthy wife? If so, why not try and keep her so. If she is out of health, why not try and make her work easier, and see if her health will not be restored to her again. Hark, do I not hear some of you complaining—your wife is behind the times, your dinner is too late, some buttons are lacking, or some hole in your coat or pants or stockings that need darning, and with all the rest the house is rather out of order, not so clean as you would like to see. The children are crying for want of care, faces dirty, hair uncombed, wife not so neatly, beauty fading every day. Isn't it discouraging. Ah, alas, it is; poor wife, all to blame. Yes it's too bad, after you have worked so hard day after day. Cannot there be something done? Yes, what. One day's consideration. How many stitches did your good wife take in those pants the other day when you sat watching her as she plyed her threaded steel so often as to make it almost seem natural. Oh, you cannot tell, it's too much of a job to count them; but it's nothing for the wife to make them. Just take the needle and use it, and see if it's nature to sit crouched in a chair all day wielding the delicate nice shining instrument through the thick fabric that is usually for men's wear.

Now my friends I pray call Common Sense up to your door and consult him in the best manner, and you will see at once the poor wife is not wholly at fault. She has to work hard to attend to house-work, child-care, &c. Where is there a man with good calculation that cannot manage to raise the amount of a good sewing machine. If you have to borrow or hire it for one year, your wife will almost pay you in remodeling out-grown garments and care of other work, that would otherwise have to go undone. Just think how many stitches there are taken in one coat or pair of pants, and think how tiresome it is for the dear wife to sit crouched half bent wielding her threaded steel, day after day, tired most to death, when it could be done with the treadle and wheel in a few hours, leaving time for housework and care of children, combing hair, &c., and I think the pale, tiresome look would fade away, leaving the beautiful tints of health to bud and bloom on that beautiful forehead, and rosy cheeks that thou hast covered so many times with kisses, as a token for its beauty and loving throbs of the heart below.

You can purchase a good sewing machine for $85. Is this a very high price for the comforts of life in one family, besides the savings and ease it will give the loving wife. Sewing machines are like other machinery—the best is the cheapest. There are but three different stitches taken as yet, to-wit: *Double lock*, *Shuttle* and *Chain* or *Loop* made with one thread only. The West & Wilson stands the highest in market as a double lock stitch and smooth surface feed. This is the only sewing machine invented as yet with this valuable invention, it's work is warranted to hold and not rip with every fourth stitch cut and its smooth surface feed, saves basting, therefore two-thirds of the labor is saved.

Ladd, Webster & Co., Singer's, and Wheeler & Wilson's are, or take the shuttle stitch; some prefer that stitch because it looks alike on both sides, but you have the annoying trouble of rewinding the thread that is used on the under side. Their prices range from $50 to $110, while the West & Wilson is but $85, weighing 80 pounds, and runs with ease and is easily operated by a child ten years old. Are these all the sewing machines that are worth having? No, oh no; there is Grover & Baker's, Harris

& Co., W. E. Brayman's, Greenleaf & Co., Grey's & Co., are all reliable machins, but the first above are preferable.

And are sewing machines all that pays? Oh, no. There are the reapers, mowers, threshing machines, cultivators, drills, rakers, &c., washing and ringing if made to perfection, and knitting saves labor.

And there is another machine manufactured in Madison by Hoyt & Campbell, this machine ought to be in the hands of every farmer. Its cost will permit it, only one dollar a year. It is called the WISCONSIN FARMER. It will save you several dollars in a year, no doubt, in the calculation and management of stock and other things about farming, &c.

I should like to learn from some one what or whose reaper is the best and cheapest and most durable and works best, it is hard to learn from advertisers that have them for sale, but some one that has used or seen them used to perfection, and I will be much obliged.

Your friend, L. J.

The Army Consumption of Wool.

The call for 300,000 additional volunteers, has an important bearing on the wool trade of the country. When the new quota has been raised, there will be 850,000 troops requiring a regular supply of army clothing. Each one of these carries, in the shape of his compete outfit, woolen manufactures representing about twenty-five pounds of raw or unmanufactured wool. In times of war, the excessive wear and tear, the irregularities and losses from various causes, will make the consumption average nearly three outfits a year per man. At a safe average, it may be reckoned that the yearly consumption of each solder will amount to 60 pounds of unmanufactured wool. This amount, multiplied by 850,000, would give, as the total consumption of wool by the army for the next twelve months, the enormous amount of 51,000,000 of pounds. The aggregate seems immense, but a careful inspection of the estimate will show that it is not exaggerated. How this enormous consumption must bear on the trade in wool and woolens, deserves the prompt attention of those interested. The whole product of wool in the United States in 1850, according to the returns of the census, was only about 51,000,000 pounds. The statement is probably far below the truth, as are nearly all the figures representing the produce of the country; and it, therefore, gives imperfect data from which to estimate the present wool crop. We have, as yet, seen no statement from the census of 1860, as to the present wool product of the country; and can, therefore, merely make a loose estimate as to the amount. We should, however, represent the most general estimate of the wool trade in supposing the present crop, in the now loyal States, to reach about 120,000,000 pounds. According to this estimate the army demand will take up about 42½ per cent. of our whole crop of wool. It is unnecessary to indicate the effect of this extraordinary demand on the value of the staple. The demand will be mostly for the lower grades of wool, which, as last year, may be expected to realize fabulous prices, and out of all proportion to the value of the finer grades. It may perhaps be questioned, however, whether we shall this year witness such a depreciation in the value of fine grades as was experienced last year. The largeness of the demand may be reasonably expected to give an enhanced value to all qualities; though, as the finer grades have no preference for army purposes over the coarser, they may not be expected to range so much higher than common wools, as is the case in ordinary times.

It is not improbable, under these circumstances, that we may witness an unusual importation of foreign wools. Although both the tariff and exchange are against its importation, yet prices may range so high as to render these considerations secondary.

The effect of this extraordinary consumption of army woolens must be to inflate and derange the ordinary business in woolen fabrics. Probably, the machinery employed last year in manufacturing military goods might be sufficient, if running extra time, to meet this demand. But that proportion of our woolen machinery leaves but little for meeting the demand for ordinary goods. The result will probably be that fabrics for civilians' wear will be in light supply and realize high prices. —*N. Y. Economist.*

The Knitting Machine.

MR. HOYT:—"Vesta" tells your readers in the June No. how much she is delighted in the possession of Aiken's Family Knitting Machine. Having used one in our family for the past year, I can cheerfully accord to it the same high appreciation of its labor-saving merits. It is so easy of operation that a child can knit at the rate of 4,000 stitches in a minute, with a neatness of finish unequalled by the most skillful fingers. Cotton or wool, fine or coarse, it matters not. The simple movement of a spring adjusts the machine for close or loose work or any intermediate texture which the nature of the work or the quality of the yarn

may require. The astonishing rapidity with which knitting is done, may create a fear in the minds of some husbands that the ladies will soon have little to do, with the aid of so much labor-saving machinery, in supplying the domestic wants. Not having experienced any such effects as yet, I cannot appreciate the force of the argument. But I do find that it leaves me much time to knit for my neighbors, and a much better supply of pin money as a consequence. Besides, our little ones find much amusement in making up the tiny bits for the little feet in the neighborhood. It is safe to say that the machine has paid for itself the past year, in incidental work, done for neighbors; aside from our own family knitting. And better than all, it requires none of that difficult and nice adjustment which the sewing machine does. One minute will adjust it to any quality of yarn; and it is ready and never out of repair. MRS. C. B. KNAPP.

WATERLOO, Wis., July, 1862.

[We have seen this machine operate, and pronounce its rapidity of execution, a great saving of time and tedious effort.—ED.]

Queer Trades.

Many years ago, when the rice was dear in eastern China, efforts was made to bring it from Luzon, where it was abundent. At Manilla, however, there was passed a singular law, to the effect that no vessel for China should be allowed to load with rice, unless it brought to Manilla a certain number of cages full of the little "butcher birds," well known to ornithologists. The reason for this most eccentric regulation was simply that the rice in Luzon suffered much from locusts, and these locusts were destroyed in numbers by the butcher birds. In our sublime and superior common sense, such a law appears trivial. Yet if we could calculate the millions of dollars annually lost to this country by insects, caused by the wanton and wicked destruction of birds, it might not appear so very trifling after all. It might be even found to be advantageous to import or raise large quantities of insectiverous birds. The same is done with mere game birds, which are inconceivably less valuable.

A somewhat similar business is carried on between England and Zealand. The latter country, at particular seasons, is invaded by armies of caterpillars, which clear off the grain crops as completely as if mowed down by a sythe. With the view of counteracting this plague, a novel importation has been made. It is thus noticed by the *Southern Cross:* "Mr. Brodie has shipped 300 sparrows on board the Swordfish, carefully selected from the best hedge towns in England. The food alone, he informed us, put on board for them, cost $18. The sparrow business has been a long standing joke in Auckland, but the necessity to farmers of small means to keep down the grubs is admitted on all sides. There is no security in New Zealand against the invasion of the myriads of caterpillars, which devastate the crops.

The most singular branch of such tariff is the toad trade. On some of the market gardens near London, as many as five crops are raised in one year, the principal object being, however, to raise the finest possible specimens for high prices. Under such a system of culture, slugs and other insects are very formidable foes, and to destroy them, toads have been found to be very useful as to be purchased at high prices. As much as a dollar and a half a dozen is given for full grown, lively toads, which are generally imported from France.

The above would seem to indicate the laugh about the little bird bill in the Assembly last Spring, was not all on one side after all.

GATHERING SPONGES.—The sponge business is largely pursued at the Bahama Islands. The exports of this article amount annually to about $200,000. It is almost entirely the growth of the last twenty years. During that period the article has nearly quadrupled in value, and has been applied to a great variety of new purposes, especially in France.

The sponge is compressed in powerful presses and sacked like cotton. It is assorted and graded, samples being fastened to each package to show the quality.

It is fished or raked, or grappled up from the clean sandy bottom at the depth of twenty, forty, and even sixty feet, and often far out from the shore. The water is so transparent that the growing sponge is visible on the bottom.

The sponge is the covering, the habitation, of the lower order of animated nature. Indeed, organization can hardly be detected in the animal.

The sponge, when first taken from the water, is black, and at once becomes offensive to the smell. It will almost cause the flesh it touches to blister.

The first process is to bury it in the sand, where it remains for two or three weeks, when the gelatinous animal matter seems to be absorbed or destroyed, or eaten by the insects that swarm in the sand.

The boatmen who obtain it are paid in shares by the owners of the boats. This, therefore, becomes a precarious and semi-gambling pursuit, like wrecking, highly attractive to the colored population.

Sparrows—A Novel Article of Commerce.

The speculators of England are carrying on quite a trade in live sparrows. The good ship Ecquador sailed from Bristol some time ago, having on board as freight, 1,500 couple of live sparrows bound for New Zealand, and in New Zealand there is a very good market found for these little chirpers. New Zealand is an excellent grain growing country, but of late years the crops there have been dreadfully destroyed by bugs and grubs and insects of one form or other. So extensive have been the ravages by these pests, that whole districts have been abandoned, and the cultivators of the soil much discouraged, and it has been feared, that, notwithstanding the fertility of the country, agriculture would, after all, have to be abandoned there. A lucky thought got into somebody's head, and two hundred couple of the common English farm yard sparrow were sent for, and safely arrived in New Zealand, and set at liberty as soon as landed; with the energy of hungry sparrows they went to work on the grubs and insects, in a way that proved to a demonstration that sparrows, after all, have their place for usefulness in the developments of civilization; and a year's experience has proved to the agriculturist of New Zealand, that these little noisy birds are among the very best friends they have on their farms. And so it is that this season, every ship loading for New Zealand has less or more live sparrows as freight, and a regular sparrow club, with funds at its command, is organized, and sparrows on landing are bought up for distribution among the contributors to the fund, and the country will soon be stocked with these grub and insect exterminators.

The habits of the sparrow admirably adapts him for the business in which he is engaged in New Zealand. He does not fly off to the woods like many other birds, you can't drive him away from human habitations. He is no coward, and will fight like a tartar; he has faith in Union also, and when a formidable enemy makes his appearance in the neighborhood of his domicile, hundreds of these little noisy warriors will pitch in and give it him unmercifully. Sparrows are extraordinary breeders, and desperate devourers. The climate of New Zealand is mild enough for their peculiar constitution, and the tillers of the soil in this far off region are anxious to encourage this querilous but, to them, useful bird, to share with them the privileges of the country, and they multiply very fast, and wherever they are found in any decent numbers, insects and grubs are disappearing. Success to sparrows. The settlers too, have instituted stringent laws for their protection.

In every country under the sun, where grain and other things cultivated for the use of man, are subjected to the ravages of bugs, grubs, worms, insects and pest of that nature, worm eating and insect eating birds should be encouraged and protected. It would pay the farmers of Wisconsin to import sparrows into this State, and if the climate in the winter be not too severe for their constitutions so as to perish them utterly—were they to become naturalized and breed among us as they do in Europe, the army worm, chintz bug and other grain destroyers of the insect kind, would find a poor chance to make headway.

A Trout Factory in Connecticut.—Messrs. Dunham, Kellogg & Ives, of Hartford, have a large trout factory in operation at Glastenbury, Conn., where trout are hatched by artificial means. The number now in the pond is between 40,000 and 50,000 and rapidly increasing. When the stock reaches the number of half a million, they estimate a yield of 58,000 pounds per annum. As they will bring in the market from 25 to 50 cents per pound, this amount would afford a very pleasant net income. The fishes are fed regularly, and they have a man in constant attendance. Their food consists of small fishes and shad spawn in season. Millions of suckers are raised to feed the hungry beauties of the pond.

THE HOME.

"Abide With Us."

Broad on the mountains sleeps the sunrise in glory,
Golden, and clear, and calm;
No thunderous praise moves their foundations hoary,
For *silence* is their psalm;
Yet throbbing to their centres do they greet
The mighty blessing of the light and heat.

Rest in our souls Spirit of God, abiding
Serene, and deep, and still—
As once upon creation's water gliding,
Mould and instruct our will;
Rest, broad, and calm, and glorious as the light,
That in our hearts there never more be night!

Making the Best of Circumstances.

The subject is not a very interesting one. Many who glance at the caption will not look to see what this brief article may or may not contain. Indeed it does not seem possible that anything of much value to our readers could be said, upon this basis, by one so unenviably situated as this very "me" at this present time. We have half a mind to speak right out and give a glimpse at what these surroundings are; but think, perhaps, we had better not since, honestly speaking, we could not give either the best or the worst of them, belonging as they do to things too sacred to be lightly spoken of; while such as these, loss of time and means, the seperation by illness from dear-

est friends, years of partial blindness, writing with fingers instead of eyes, and keeping one's self alive, and pretty well, by a kind of will power rather than a reserve of nerve and muscle—what of it? Anybody can make the best of such circumstances as these. But there are those that are hard to be endured, taxing grace and philosophy to the utmost. Of such as these, for the benefit of those who suffer, we would speak, briefly, of two cases that have come under our own observation.—One is that of a lady who is next thing to miserable, because she lives in the country when she would so much prefer living in the city; the other is not less unhappy, being doomed to a life in town, when she has always wished a home in the country.

Friend number first lives upon a large and well improved farm, has what city folks call a beautiful home, good house, fruits and flowers, horses, carriages and whatever belongs to the comforts and luxuries of a country life. But there she has little society, of the real, city style, has to ride two miles to go to church and do shopping, can't keep her little boys in white pants and ruffled sleeves because they will be everywhere and into everything, and as for the girls—just look at them—nearly as wild and as brown as their brothers. Why those children will race more miles, and eat more bread, and drink more milk, in one week than all their city cousins in a month. How they do grow and how vulgarly robust they look?

Friend number two has all that the city can afford, that money can purchase. Her children go to to the best schools and *have* to wear the white pants and ruffled frocks and she is *obliged* to see much of the society for which our country friend would give her broad acres. But oh, dear me, how much pleasanter, she thinks, to be in the beautiful, fresh country, where instead of japonicas and camelias bought at the green-house she might have dandelions and butter-cups springing up under her very feet; and where the children, dear little delicate creatures, would come in with such appetites as would do one good to see, fresh from chasing calves, riding colts and turning summersets on the hay mow. Number one can't have japonicas and camelias, because it does seem as though husband would never get time to plan, or feel quite like sparing the means for that longed-for conservatory of plants that would look so beautiful in the house. Number two is sick and tired of all such stuff and only waits, impatiently, for the time to come when she may rejoice in the odor of pasture and field, and tenderly protect those blessed blooms of dandelion and wild-brier that number one is every year pursuing with the avenging hoe and knife. These are no fancy sketches.—Years have passed bringing little change, or prospect of alleviation, to those who, most unfortunately, have not the ability to, or have never yet tried to make the best of their circumstances.

In the simple resolution to do this, and the cheerful, persistent carrying out of whatever promotes the end in view, lies the secret of more real blessedness than could be procured by all the wealth of the world, or by any circumstance or position separated from the disposition to look at things as they are, saying evermore, from the temple of a soul that is not disturbed by trifles. "*These are mine, and with these I* WILL *be happy.*"

The Better Age.

BY WILLIAM CULLEN BRYANT.

When after days of dreary rain, a space
Of clear, soft blue, between the parting clouds,
Opens on the drenched field and dripping woods,
The tillers of the soil are glad and say
The storm is overpast; for well they know
That in the clear, blue spot begins the reign
Of sunshine. Broader shall the opening grow
As through the throng of clouds the western wind
Goes forth, a conqueror, and scatters them,
And sweeps them from the glorious cope of Heaven.
Thus, in the tasks of mercy that engage
The minds and hands of thousands, we behold
Signs of a glorious future. They who watch
Beside the sick-beds of the poor, who seek
And lead the erring back to the right way,
And heal the wounded spirit with the balm
Of pity, and hold back the cruel hand
That smites the helpless; they whose labors win
The outcast hater of his kind to feel
The power of goodness, and shed penitent tears,
Are Gods elected agents to bring in
The better age. With gladness and with thanks
We number mercy's triumphs, and our hopes
Go forward on the glorious train of years,
When all the clouds of strife that darken earth
And hide the face of Heaven, shall roll away;
And like a calm, sweet sunshine, peace and love
Shall light the dreariest walks of human life.

Good Taste.

Good taste is the "luminous shadow" of all the virtues. It is social discretion, it is intellectual kindness, it is external modesty and propriety, it is apparent unselfishness. It wounds no feelings, it infringes on no decorums, it respects all scruples. A man thus gifted, even though he be not a wit, spreads a genial influence about him from the trust he inspires. The stiff man can unbend, the cold can thaw, the fastidious can repose on him.—No one is committed to more than he chooses—no ungenerous use is made of an unusual or transient impulse. Good taste is practical, though not deep, knowledge of character; it is perception of the distinctive points of every occasion; and thus it reconciles and harmonizes where bad taste perpetuates differences and necessitates separations. And yet we by no means wish to make good taste a synonym either for virtue or intellect—it is rather that quality which sets off both at their best. It is an affair, in some degree, of social training—it is one aspect of knowledge of the world. Those who are little in general society—who confine themselves to family intercourse or to that of a set or clique, whatever the position, whatever the intellectual or moral pretensions of that clique—are almost sure to fail in it in new scenes. All persons of a single idea, engrossed by one object, are perpetually infringing on the rules of good taste. If they are religious, they are pragmatical and intolerant, regardless of sensibilities. If they are useful, they do their work with unnecessary fuss. If they are learned, or deep, or clever, they make these good gifts unpopular. If they are merry, we are kept on thorns—if they are grave, they are a check and restraint. They fail in every social crisis. In every difficulty they take the wrong way. They are forward when they ought to be retiring—their diffidence is constantly misplaced. There is no knowing where such people are—to what lengths an emergency or excited spirits will drive them. It is the cause of half the seeming injustice of society. The man of bad taste cannot comprehend why things are not tolerated in him which are allowed in others. He is the last to see that the presence or absence of a correct taste makes the same practice or amusement agreeable or repugnant—that nothing can be judged fairly without taking the manner of doing it into consideration. He is therefore for ever grumbling at the inconsistencies and partialities of mankind. The fact is, every hinge with some people grates and creaks, at each turn jarring on sensitive nerves; while good taste is the oil which keeps the machinery of society, with the least wear and tear, noiselessly and profitably at work.—*London Saturday Review.*

— The marriage of Princess Alice took place on the day the Great Eastern left Liverpool.

HEALTH AND DISEASE.

The Influence of Sleep Over Disease.

Some of our older practitioners, especially in the country, have been in the habit of having patients wakened every ten or fifteen minutes. This we regard as entirely wrong, and calculated but to increase the nervous irritability, intensify disease, and prolong the recovery. In Dr. Ware's tenth lecture on General Therapeutics, published in the Boston Medical and Surgical Journal for January 16th, a few remarks are made that have a bearing upon the point under consideration. He says:

"In all forms and conditions of disease, both acute and chronic, the state of the patient as to sleep is an important consideration, both as regards his comfort, and also as regards the satisfactory progress of his case. The nature of this condition of animal life we do not fully understand; we only know that it is a necessary one, and having a vast influence on the state of the system. Its purpose seems to be to afford an opportunity, by the suspension of certain activities of the system which require the exhaustion of those powers that emanate from the nervous system, for the reinforcement of those powers. It is also during sleep that the repair of the tissues by nutrition is provided for. Not that all nutrition is suspended during our waking hours, or that all waste is suspended during sleep; but that in two states of waking and sleeping there is respectively a large predominance of the repair and the waste. Sleep is not merely rest, as it has been sometimes considered, an entire rest of all the organs at once; it is something specifically different. It is a condition of an entirely different nature, and a condition for which rest is not, in any sense, a substitute. The mere fact of existence, without exercise, without fatigue—the simple going on of life—implies a certain expenditure of force, which renders necessary, at certain intervals, a suspension of those functions of the brain, and nervous system which are subservient to the phenomena of mind. It is possible that ordinary rest might afford an opportunity for the nutrition of all these tissues, except those which are the agents of the mind. But it seems to be necessary for the repair of these, that the functions of the mind should also be suspended. Of the physical condition of the brain in sleep, and also concerning the peculiar state of the mind in sleep, notwithstanding the many theories which have been formed concerning them, we know nothing with certainty; and this is not necessary to the practical management of the sick. What should guide us is the knowledge that a certain amount of sleep, at proper intervals, is an absolute necessity, and that its absence or its deficiency is always a great evil, and to be prevented by every possible means. In acute disease a sufficient amount of quiet

sleep is at once, a favorable indication of the nature and issue of a case, and also is an important agent in the promotion of a favorable issue. Its absence, on the contrary, is *pro tanto*, an unfavorable issue as to the result, and also promotes an unfavorable issue. Want of sleep adds to the sufferings of the patient, and also to his exhaustion, and consequently interferes with the success of the sanitary process, and impairs the power of recovery. In every point of view, then, the state of the patient in this respect becomes the object of special attention. Salutary changes in the condition of a patient will be often found to take place during sleep, and to manifest themselves most obviously on awaking from that which has been sound and refreshing."

Dr. Ware makes another practical remark that we know it would oftentimes be prudent to put in practice, and yet we have reason to believe it is seldom thought of by the physician, or urged upon the attention of the patient:

"It sometimes happens that, after a short nap on first going to bed, a person wakens without any known cause, and then remains obstinately watchful for many hours. In this case if he rises, washes his face, hands and feet, and walks about briskly for awhile, and returns to bed, the charm may be broken and a continued sleep will ensue. Or he may rise and write or read with the same result.—*Medical Reporter of Boston.*

Our Teeth.—They decay. Hence, unseemly mouths, bad breath, imperfect mastication.—Everybody regrets it. What is the cause? I reply, *want of cleanliness. A clean tooth never decays.* The mouth is a warm place—98 degrees. Particles of meat between the teeth soon decompose. Gums and teeth must suffer.

Perfect cleanliness will preserve the teeth to old age. How shall it be secured? *Use a quill pick, and rinse the mouth after eating. Brush and Castile soap every morning; the brush with simple water on going to bed.* Bestow this trifling care upon your precious teeth, you will keep them and ruin the dentists. Neglect it, and you will be sorry all your lives. Children forget. Watch them. The first teeth determine the character of the second set. Give them equal care.

Sugar, acids, saleratus, and hot things are nothing when compared with food decomposing between the teeth. Mercurialization may loosen the teeth, long use may wear them out, but *keep them clean and they will never decay.* This advice is worth more than thousands of dollars to every boy and girl.

Books have been written on the subject. This brief article contains all that is essential.—*N. Y. Independent.*

☞ There are 343 patients in the insane hospital at Northampton, Mass.

DOMESTIC ECONOMY.

Bread and Butter Pudding.—Slice bread, spread with butter, and lay it in a dish, with currants between each layer; add sliced citron, orange, or lemon, if to be very nice. Pour over an unboiled custard of milk, two or three eggs, a few pimentoes, and a very little preserve, two hours, at least, before it is to be baked. A paste round the edge makes all puddings look better, but is not necessary.

Baked Apple Pudding.—Pare and quarter four large apples; boil them tender, with the rind of a lemon, in so little water that, when done, none may remain; beat them quite fine in a mortar; crumb in a small roll, four ounces of butter melted, four eggs, the juice of half a lemon, and sugar to your taste; beat all together, and lay it in a dish with paste to turn out. Bake it an hour and a half.

Green Corn Pudding.—Take one dozen and a half ears of green corn, split the kernels lengthwise of the ear with a sharp knife, then with a case knife scrape the corn from the cob, leaving the hulls on the cob; mix it with three to four quarts of rich sweet milk; add four eggs, well beaten; two tablespoonfuls of sugar; salt to the taste; bake it three hours. To be eaten hot, with butter.

Red Ants.—To keep them away from your cupboards. Keep one pint of tar in two quarts of water, in an earthen vessel in your closets, and you will not be troubled with little red ants. When first mixed, pour the water on hot.

To prevent Flies from injuring Picture-Frames, Glasses, &c.—Boil three or four onions in a pint of water; then with a brush do over your glasses and picture-frames, and the flies will not light on them. It will not do the least injury to the frames.

Soft Cakes.—One pound and a half of butter rubbed in two pounds of flour; add one wine-glass of preserve juice, one of rose-water, two of yeast, nutmeg, cinnamon, and currants, and bake in little pans.

Spruce Beer.—Take three gallons of water, lukewarm, three half-pints of molasses, a tablespoonful of essence of spruce, and the same quantity of sugar; mix all together, and add a gill of yeast; let it stand over night, and bottle it in the morning. It will be ready to use in twenty-four hours.

Cup Cake.—One cup butter, two cups sugar, three cups flour, and four eggs, well beat together, and baked twenty minutes, in pans or cups.

This same quantity, with currants or raisins added, makes a very good loaf cake.

Jumbles.—Three pounds of flour, two of sugar, one of butter, eight eggs, with a little caraway seed; and a little milk, if the eggs are not sufficient.

LOAF CAKE.—Four pounds of flour, two pounds of sugar, one pint of yeast, three eggs, two nutmegs, one pound of raisins; rub half the sugar and butter when you mix it, let it rise, then rub the rest of the butter and sugar, and pour it into pans, and bake immediately.

YOUTH'S CORNER.

Geology.

A PEEP BEHIND THE CURTAIN.—No. 3.

"What are these curious looking things?" They are fossil Trilobites, (*Tri-lo-bites*) so called, because the body is formed in three lobes or parts.

The Trilobite is an extinct animal, that is, there are not any such animals now living, and it is only found fossil, that is, imbedded in the earth or rocks, and in a petrified state. "But how did they come to be in the rocks?" Thousands of years ago, when these animals lived, what is now rock, was soft clay or mud; and they became surrounded with it, and then became petrified. Trilobites are classed with the Crustaceans—animals that are covered with a shell-like crust, or shield. There is a large number of species of trilobites, varying in length, from one to eighteen inches. Here is a portion of one that very much resembles a butterfly, so much so that many persons believe that it is really a petrified butterfly. Here is one that is rolled up, and looks like a huge wood-louse, and here is another that has the edge of the shield serrated, that is, the edge is formed with sharp pointed notches. But the most curious thing about trilobites, is their eyes. Here is one that has the eyes very distinct. You see that what appears to be its eyes, are prominent cone shaped bunches, but if you examine them closely, you will see that these bunches are full of little black shining spots, which are really its eyes. Some specimens have several hundred eyes. Were it not for this singular arrangement of the eyes of the trilobite, they would have been of but little use, on account of being immoveable, but this arrangement enabled them to see in every direction.

There are several species of trilobites found in Wisconsin. UNCLE WILLIAM.

WAR MISCELLANY.

During the strawberry festival at Racine, to which the Editorial Convention was invited, the following beautiful song was sung by the choir of St. Luke's Church. The words were composed by the Rev. Joseph H. Nichols, of Racine, (now Chaplain of the 19th Regiment) in the year 1842, and was first published in the New York *Statesman*. The author had lost sight of it and had almost forgotten it, when a female spiritualist of New York city gave utterance to it on a public occasion as a proof of her heavenly inspiration:

"The American Ensign."

Flag of the stars whose light
First cheered the nation's gloomy night,
And bade the world no more to sigh,
Oh! can thy children gaze,
Upon their sapphire blaze,
Nor kindle at the rays
Which bid the brave of old to die.
CHORUS.—Hail banner beautiful and grand;
Float thou forever o'er our land.

Flag of the stripes of fire!
Long as the bard his lofty lyre
Can strike, thou shalt awake our song;
We'll sing thee round the hearth;
In holy household mirth;
We'll sing thee when we go forth
To battle go, with clarion tongue.
Hail banner beautiful and grand,
O'er mountain, prairie, lake and sea,
Where'er thou floatest, we sing to thee.

Flag of the eagle! who
Upon thy shining folds of blue,
His fiery pinions boldly spread;
Around thee we will stand,
With our bright blades in hand,
We love, till life's last drop be shed!
Hail banner beautiful and grand,
How sweet, how beautiful is death,
When for thy sake we yield our breath.

Flag of two ocean shores,
Whose everlasting thunder roars
From deep to deep in storm and foam,
Tho' with the sun's red set
Thou sinkest to slumber, yet
With him thou dost not forget
To rise and make the heavens thy home,
Hail banner beautiful and grand,
Flag of the West be thou unfurled,
Till the last trump shall wake the world.

Why the Charge of Powder Should be Decreased for Large Shot.

We take the following from *The London Field.* It was written for that journal by J. D. Dougall, gun-maker, of Glasgow, of whom the editor says that he is "one of the most sincere and intelligent correspondents of *The Field*":

"All projectiles or other bodies in motion possess the power of continuing that motion in proportion to their weight, irrespective of their rate of speed. A light ball, going rapidly, may be safely caught by the hand; a cricket ball of greater weight going at the same speed, may yet be caught, and the hand remain uninjured, by the nack of yielding to the concussion, as all cricketers practice; a cannon ball of the same size, going at only the same speed, would cut off the hand placed in its way, and proceed almost unimpeded on its course. How often have we read of soldiers losing a foot by trying to stop an apparently spent cannon ball. This property of retaining speed is called momentum.

"A pellet of No. 3 shot is about double the weight of one of No. 6, and, in consequence, possesses this momentum in a much greater degree. No. 6 kills by great velocity, but rapidly loses that velocity, and must, consequently be started at a very rapid rate. No. 3, and consequently all larger sizes in a still greater ratio, do not require the same rate of starting to kill at the same or even greater distance.—They maintain their speed longer, and have more weight and force when they do strike. The reason for reducing the powder will now be seen. A heavy charge of powder causes guns to scatter, by developing in a greater degree the tendency of shot to fly obliquely through inequalities in shape and density. The smaller the charge of powder consistent with sufficient power, the better and more regularly the gun will shoot, and retain more central pellets. Almost any gun will show a good target by using a small charge of powder, but the strength is wanting. A perfect gun is one that combines this correctness with force, and it is this combination which forms a long-range gun.

"An ounce and a quarter of No. 6 shot (No. 5 I never liked, but this may be a mistaken prejudice) contain about 350 pellets. An ounce and three quarters of No. 3, contain about 230 pellets. Here the additional half ounce still leaves a deficiency of no less than 120 pellets, and were not this met by some counter plan to keep the shot from spreading, the chance of hitting at a long range would be very small indeed. The diminished charge of powder is the counterplan, and the momentum of the heavier shot makes up the necessary power to kill. The tendency of the gun to scatter with a heavy charge of powder is on the other hand compensated by No. 6 having so large a number of pellets. Let it be noticed, however, that one pellet of No. 3 will be as destructive as two of No. 6—yet the latter is the preferable size for all common shooting, being effective from snipe to hares. To illustrate this still further, suppose the size of the shot increased, and the number of pellets consequently diminished, until you reach the unit—a ball the diameter of the barrel; then one-fourth of a drachm of powder will be found to send it further than three drachms will send the same weight of No. 6. I write of charges suitable for fowling pieces of average size and weight."

Merrimac No. 3.—Plan to Destroy the Monitor.

A few days previous to the evacuation of Norfolk by the Rebels, "Merrimac No. Two" was towed from the Navy-yard in that city up James River to Richmond, where a large number of mechanics have since been engaged in plating her with iron and preparing her for service. Her armor is in plates instead of bars, her sides of wood, and six feet thick; and she will have all the improvements suggested by the career of the Merrimac. In the haste of evacuation her boilers were left behind on the dock at Norfolk; but she has since been supplied with others at Richmond, which circumstance has occasioned a delay in her coming out. She has received the engines of the Arctic, commanded by Captain Hartstein in his Northern explorations.

These engines were taken out of the vessel at Norfolk soon after her return from her memorable voyage. The name of the new steamer or ram has been changed to the Richmond, and is about two-thirds the size of the Merrimac (or Virginia), will draw about ten feet, and is represented as being altogether more formidable than the slayer of the Cumberland and Congress. Deserters, escaped prisoners, and others represent that she is nearly ready to make her appearance in the James River, and a slaughter of any number of our gunboats is confidently counted on. It is said that the obstructions at Fort Darling have been so contrived as to let her drop through, as did the Teazer the other day.

These are substantially the particulars as they have been obtained from various sources, and are believed to be mainly correct. They have for some time been in the possession of the Government, as were the main facts concerning the Merrimac, long before she made her appearance in the Roads. Whether, as in her case, no heed will be paid to them, I am unable to say. That some sort of iron-clad steamer or ram is constructing at Richmond, there can be hardly a doubt. Prisoners taken at different times, and without any knowledge of each other's story, concur in the general statement. But there is information much more direct and trustworthy; and though in some respects the information gathered through

different sources, may be erroneous, there would seem to be little room for questioning the main fact.

On board the rebel gunboat Teazer, captured a few days since, were complete and elaborate drawings of the Monitor, and a contrivance to be used in capturing her, the main features of which are two steamers connected by a chain cable—one to go on each side of the Monitor, which would be drawn along by the two steamers thus attached to her. There were also minute specifications as a part of the plan of capture, and details of men as boarders, while others were to be provided with iron plates to cover the openings in the Monitor's decks; others with compounds to pour down her pipe and flue; others with wedges to prevent the revolving of her turret, and others still to play different parts.

On the Teaser were found also drawings of submarine batteries and infernal machines and their different locations. It is conjectured that the submarine cable found on board of her related to this branch of the rebel service, in which it is supposed she was engaged when she was captured.—*Cor. N. Y. Tribune.*

The South Carolina Contrabands.

The vexed question of "the contrabands" has possibly entered a new phase by the appointment of Brig. Gen. Saxton to the position of superintendent of all the plantations and the inhabitants thereof within our army lines. This in effect takes the direct control of the negro population out of Gen. Hunter's hands; although as Gen. Saxton remains subject to Gen. Hunter's orders, no very serious change of policy in regard to this class can be adopted without receiving General Hunter's sanction. Thus far Gen. Saxton has given no indication of any intention to break up the regiment known as the 1st South Carolina Volunteers, composed of slaves whose masters have run away from them. This experiment, indeed, is one which deserves to be prosecuted to the end.

Apart from the military employment of the negroes, the success of their organization as free laborers in the quartermaster's department of the army, and, under the instructions of Secretary Chase, on the plantations, is one of those astounding new developments which contradict by a few months of practice the received and almost universally accepted opinion of many years. Far from refusing to earn honest wages by the sweat of their brow, far from idling in the sun and devoting themselves to petty theft as a means of livelihood, as prophesied by the enemies of their race and those interested in upholding the "institution," the concurrent testimony of all who have had the supervision of the colored men in this department proclaims an opposite result. Employed by General Sherman in the quartermaster's department at $8,00 a month and rations, their services have been so valuable and so eagerly sought in all their branches of business, that it has been found necessary in both the commissary and quartermaster's departments to advance their pay to $12,00 a month in order to retain them.

Few, who, eight months since, saw the crouching, slouching, abject, only half human figures which slavery had made of this race of helots, would recognize to-day as the same men the well-clad, elastic, intelligent and respectful colored laborers who crowd the busy piers of Hilton Head and Beaufort, handling packages and barrels with the brisk dexterity of Northern stevedores and lightermen, driving wagons to the depot-storehouses, or heartily rowing boats with the precision of men-of-war's men. They have learned to *talk*, also, and I hear from their school-teachers, and my personal observation bears out the assertion, that most of them will be able to read, and a large portion be able to write, before the expiration of many months.

Thus far, in its civil and military aspects, the management of the negroes in this department presents phases deserving the most serious attention of the philanthropist and the statesman, and an earnest hope must be felt by all interested in the suppression of this rebellion and the wellfare of the human race, that the prosecution to its logical result of this sudden attempt to elevate a whole people may not be interrupted.

How an Army Moves.

There are a great many things besides men and guns essential to an army; and the commander, about to lead an army into a hostile country, first sees that the commissariat is well provided with provisions, that there are ample means of transportation, and that there is a reserve of ammunition and clothing, and a good supply of hospital stores and medicines. All the preliminary arrangements for the march having been carefully made, the "order of march" is communicated to the several commanding officers of divisions, brigades and regiments, but not published in orders. The troops are distributed according to the character of the country.

In a very open country a large portion of cavalry would be at the head of the column; but generally it is distributed throughout the line. The artillery should be in the rear of the first foot regiment. An advance or rear guard of mounted troops—one or two companies—should be detailed each day, and the regiment that has the right of the line one day should be next day in the rear. In a woody or mountainous country, detachments of flankers and skirmishers are thrown out to the right and left of the column, at a distance of one or two hundred paces, to keep a sharp lookout,

and prevent any such disastrous and gratuitous experience as those painfully and recently familiar to us in connection with the ambuscade on the road to Vienna.

The column having been formed at half or quarter distance, and the baggage train assembled in the rear, protected by a guard selected from each regiment for its own baggage, the column is put in motion, and the march commences with the same regularity as would be observed by a regiment moving in or out of a garrison town, the band playing, the light infantry with arms sloped and those of the riflemen slung over the shoulder, the officers with swords drawn, exact wheeling distance preserved, and perfect silence observed.

After having proceeded a short distance in this manner, the word of command, "route step," is given by the general at the head of the leading battalion, and passed quickly on to the rear. The captains, instead of continuing at the head of their companies, draw back to the rear of them, that they may see any men of their respective companies who attempt to quit the ranks without leave. The soldiers then march and carry their arms in any manner convenient to them, conversation and smoking being ordinarily allowed.

Cannonade.

In a general sense a cannonade is the act of firing artillery during a battle or a siege.—Technically, a cannonade means an engagement between two armies in which the artillery alone is active, while other arms are either passive or do not, at best, overstep the bounds of mere demonstration. The most celebrated instance of this kind is the cannonade of Valmy, between the Prussians and the French, in 1792. The French general, Kellermann, awaited the attack of the Prussians on a range of hights, his artillery placed in front of his troops. The Prussians drew up on the opposite range of hills, brought forward their artillery and the cannonade began. The Prussian infantry formed several times for the attack, advancing a little, but, on the French remaining firm, withdrew before coming within musket range. In this way the day passed, but the next day the Prussian army began their general retreat. In most general engagements such cannonades occur. In the Sikh war, for instance, as we were recently informed by a British officer at present in this city, who had been through the India campaign in 1842–3, the course of the British army was to pour a few volleys of artillery into the enemy, then charge, and wind up with cold steel. But, generally speaking, cannonading serves to fill up the intervals between a repulsed attack and another attempt to dislodge the enemy; and they form the *finale* of most drawn battles. A cannonade, however, is most frequently used for purposes of demonstration, rather for moral support on the side using it than for physical destruction against the enemy. A cannonade, unless in very exceptional cases, causes greatly disproportionate results compared to the amount of ammunition used. In the battles about to be fought in this country, especially between the armies on each side of the Potomac, artillery will play a more important part than in any wars recorded in history.—*Scientific American.*

Monster Guns to be Made.—The Fort Pitt Works in Pittsburg, have received a Government order for the construction of a new class of navy guns, intended for the iron plated vessels now in course of erection at New York and elsewhere. They are to be 15 inch Dahlgrens, designed to suit the turrets of such vessels as the Monitor, of which there are several now building. The length of the new guns is 13 feet 5 inches; depth of bore 130 inches; diameter of bore 15 inches; greatest diameter 48 inches, diameter at the muzzle in the rough 38 inches. These guns will be the largest navy cannon in the world, and the Monitors armed with them will be able to hurl shot weighing 425 pounds which is nearly three times the weight of the round shot fired from the largest Armstrong gun yet made for the British navy. Hitherto 11-inch guns have been the largest used in the American Navy. The new 14-inch guns have lately been cast at the Fort Pitt Works each of which when finished, will weigh over 25 tons.

The Government is about to have more monster guns made, for which proposals have been issued by Secretaries Stanton and Welles. They are to be 15-inch smooth bore cannon and 12-inch rifled guns—the former to throw a shot not less than 450 pounds weight, and the latter not less than 500 pounds. The first gun of each kind is expected to stand a proof of one thousand rounds, with a charge of powder one-fourth the weight of the shot for the 15-inch, and one-fifth for the 12-inch. The heaviest of these cannon will be about 50,000 pounds, and 16 feet long. They are intended for ships and fortifications.

Weight of Solid Shot.—The specific gravity of ordinary cast iron is about 7¼ or that much heavier than water. A cubic foot of water weighs 62½ lbs.; a cubic foot of iron, 452 lbs., nearly. Cannon balls increase eight times in weight for every diameter; that is, a 6-inch ball weighs eight times as much as a 3-inch ball. The following table will be useful, giving the weight of different sizes of solid shot in pounds and tenths:

Inches.	Weight. lbs.	Inches.	Weight. lbs.
3	3.7	9	99.4
4	8.7	10	136.3
5	17.0	11	181.4
6	29.4	12	236.2
7	46.7	15	460.0
8	69.8	20	1090.3

NEWS SUMMARY.

DOINGS OF AGRICULTURAL SOCIETIES.

Wisconsin State Agricultural Society.—EXECUTIVE MEETING, MADISON, July 29, 1862.—Pursuant to a call of the President, for a Special Meeting of the Executive Committee, the following members of the Committee were present:

B. R. Hinkley, David Williams, David Atwood, S. S. Daggett and Bejamin Ferguson.

B. R. Hinkley, President in the chair. E. B. Quiner as Secretary pro tempore.

The President of the Society stated that the object of the meeting was to determine whether the Society should this year hold a Fair, he also gave an account of the action of himself and the Treasurer, in the disposal of the Fair Grounds at Madison to the State Government for military purposes.

On motion of Mr. Williams, the doings of the President and Treasurer, in disposing of the interest of the Society in the Fair Grounds at Madison, to the State, were unanimously approved.

The question being, shall the Society hold a State Fair this fall. After a free discussion of the propriety of holding a fair, in which the present condition of the country, growing out of the war, was freely commented on:

On motion of Mr. Williams, it was unanimously

Resolved, That the Society does not hold a Fair this fall.

On motion of Mr. Daggett, it was

Resolved, That the salary of the Secretary of the Society, from and after the first day of January, 1862, is fixed at $1,000 per year.

The President laid before the meeting the proposition of Geo. R. Chittenden, Esq., donating a Wheeler & Wilson Sewing Machine for the specimen of sewing done upon that kind of a machine, and regret much that the determination to hold no fair will prevent the Society from accepting the offer. The committee trust that the offer will be held open for any future exhibition of the Society.

On motion of Mr. Williams, no further business being before the committee, adjourned *sine die*.

B. R. HINKLEY, *President*.

E. B. QUINER, *Sec'y pro tem*.

The Iowa State Fair.—Our neighbors across the river instead of being frightened at the squally times, and instead of abandoning the encouragement of the agricultural interests have been steadily progressing, and have this year offered *and will pay* a list of premiums amounting to $5,000—nearly double the amount of any previous year. We congratulate the officers of the Iowa State Society on their pluck, and we have no doubt in the world they will win.

For the first time their Fair will be held in the Northern part of the State. Dubuque is the place, and the 30th of September the time. It is unfortunate that the Illinois Society selected the same week, as doubtless many would like to have attended both. But Iowa was in the field *first*, and is not to blame—long after she had fixed her time and place—Illinois took the same week.

Dubuque is the largest city in the State, and is all alive to the importance of the occasion. We learn her liberal and spirited citizens are fitting up the grounds in a manner never equaled in that State or this. On the grounds of accessibility, Wisconsin is as much favored as Iowa.

The feeling in the Board last winter was most cordial towards us, and the appointment of committees on all classes of stock was deferred till the time of the Fair, in order that Wisconsin and Illinois might be fully represented on them.

Our people may depend upon the utmost cordiality and fairness in the management of the exhibition. The high character of the executive officers of the society is sufficient to guarantee this.

The President, Chief Justice Wright, is exceedingly popular in that position, as the fact that this is his third successive term demonstrates.

The Vice-President, Dr. Geo. Sprague, was for several years Secretary of the Agricultural

Board of Ohio, and more recently has been conducting the Ohio Stock Farm in Butler Co., Iowa. Many of our readers know him by reputation.

The Secretary, J. H. Wallace, of Muscatine, has been re-elected to that position seven successive years, which is sufficient evidence that he understands how to make a Fair successful.

The Treasurer, our editorial friend Mark Miller of the *Homestead*, is known to most of our readers, and there is no danger but Mark will have the money all right. All being gentlemen of great intelligence and experience in this kind of thing, and extending so hearty an invitation to our State—we ought to accept it—make the acquaintance of our Iowa friends, and in a laudable emulation, compare our products with theirs, and beat them if we can.

But a cordial invitation, and the undoubted guarantee of fairness, are not the only inducements offered. The premium list is on the most liberal scale, especially in the stock departments. Among the awards of unusual amount, the following may be enumerated:

No. 8.	Best Bull of any age or breed	$100 00
	Best Cow " " "	50 00
No. 12.	Best Stallion of any age or breed, showing the best four colts	100 00
	Best Mare showing the best colt or colts	50 00
No. 14.	Best Family Carriage Team	50 00
No. 15.	Best Buggy Team for fast driving	50 00
	Best Buggy Team without regard to color	50 00
	Best Single Gelding or Mare	30 00
No. 16.	Best and Fastest Trotting Stallion	100 00
No. 65.	Best Horsemanship—Tournament	100 00

This last item is a new, and we think an exceedingly important feature. These war times, it is altogether important that our young men should learn to ride. The character of this contest is fully explained in the tests and rules adopted.

Let us all go and exchange greetings, and enter the lists for the premiums so liberally offered to us. We have a few premium lists for distribution. *

Table of Weights of Grain to the Bushel.

Wheat or Clover Seed	60	pounds.
Rye or Indian Corn	56	"
Oats	32	"
Barley	48	"
Buckwheat	42	"
Dried Apples or Peaches	28	"
Flax Seed	56	"
Timothy Seed	45	"
Potatoes	60	"

EDITORIAL MISCELLANY.

All communications, of whatever kind, intended for the EDITOR *should be addressed to him exclusively; all remittances of money and all business letters, to the Publishers.* The offices are separate and distinct, and attention to this request will save the Editor a great deal of time and trouble, while at the same time, it will diminish the liability to mistakes.

No Fair this Year.—From the proceedings of the Executive Committee in another column, it will be seen that the State Agricultural Society will not this year hold a Fair.

The absorbing question of the war preoccupying the public mind to the exclusion of everything else, has determined the minds of the Committee to dispense with the usual Fair of the Society.

The President and Treasurer have made a favorable disposition to the State of their interests in the Fair Grounds at Madison, and have placed the Society in a favorable condition for resuming the usual exhibitions of the Society, at the next Annual Fair season.

The International Exhibition Again—The Great Cattle Show of the Royal Agricultural Society of England, &c.—LONDON, June 18, 1862.—The World's Exhibition of Industry goes on splendidly, growing more and more grand in its proportions and importance as we see more of it. Magnificent and bewildering as we saw it on the day of the opening, a month of hard labor in studying its several departments has so increased its magnitude and splendor that now it seem almost impossible to give any sort of a description of it in the few brief letters we find time to write during these weeks of inspection.

The number who daily attend ranges between forty and seventy thousand. And there seems no end to the coming. All Europe, Asia, Africa and a good part of the New World seem to be here. As one takes his stand, for a few moments, in the gallery at the western extremity of the grand nave and lets the eye wander over the vast and indescribably brilliant display in the British, French, Zollverein, Austrian, Prussian, Belgian, Swiss, Russian, Swedish, Danish, Egyptian, Oriental and Sea Island Courts, and then glances into the vast "annexe," where wonderous machines of every conceivable kind, with their bus and whir, and clank and thundering roar mingling in one grand harmony of confusion with the thousands of babbling tongues which represent all the nations and languages of the earth, he must be a strange unthinking man if he be not filled with unutterable emotions and led into a most interesting train of reflection upon the progress of the past and the probable influence of these great gatherings of the nations upon the material, social and political advancement of the race.

One of the most instructive lessons to be learned con-

sists in the characteristics of the different nations as illustrated by their industrial products. Of this when we have more time.

THE AMERICAN BRANCH.

Meagre as is the show of American products, it is a significant fact that in several departments of the Exhibition we are certainly entitled to the palm. The awards have not yet been declared, but it is certainly evident that the United States may justly claim the honor of the best agricultural implements, the best reapers and mowers, the most surprising and valuable new invention for weaving, the best piano and the finest statue.

We have not quite completed our labor of inspection, but hope to in a few days. When this is done we shall be prepared to begin the work of intelligent description and profitable comment.

THE ANNUAL CATTLE SHOW OF THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND

Was opened in Battersea Park on Tuesday. We got away from our work long enough yesterday to take a running look at the magnificent array of stock and the splendid show of implements and farm machinery. England has never seen anything like it, and we are confident that the like has never been seen in the history of the world. To-day there is to be a grand trial of steam plows, and as we have arranged to be present, this brief and hurried letter must close.

LONDON, July 12, 1862.—Yesterday was the second great day of the Exhibition, being devoted to the delivery of the awards of premiums. It was a State Ceremonial, and representatives diplomatique of all the countries making exhibition were present in court dress to add to the splendor of the grand pageant. There was no great choir of 2,000 voices, as at the opening, but this deficiency was made up, in part by the presence of a large number of very distinguished bands from various parts of England, France and Germany—the Emperor Napoleon sending two of his finest bands at his own expense.

The awards were delivered first by the Chairmen of the Juries to "His Royal Highness," the Duke of Cambridge, who, in turn as the procession moved through the Palace, delivered them to the diplomatic representatives of the different nations. These representatives were stationed at certain trophies or emblematically decorated courts along the course of the nave through which the procession passed—Mr. Adams, the American Minister, receiving the awards made for articles exhibited by the citizens of the United States.

These trophies were, some of them, very beautiful and interesting, being made up of articles illustrative of the resources and industry of their respective countries. The U. S. trophy embraced a beautiful copy, in stucco, of the Greek Slave; a fine statue of "America," leaning upon her shield, and holding the American Flag in her right hand, with sundry prize implements of husbandry at her feet; the prize piano; Cropsy's magnificent prize pictures of a scene on the Hudson; together with several sewing machines, a prize water elevator, and a prize steam fire engine—the whole being surmounted by a beautiful display of the Stars and Stripes. Of the others we have no time to give a description. The day was (for a great wonder) clear and radiant, making the grand array in the beautiful gardens and palace even more imposing than it would otherwise have been.

Time will not permit, before the closing of the foreign mail, any extended comments upon the awards in general, but the following list of those made to the United States will show that the enterprise of those of our American citizens who, in spite of all the hindrances in their way, have made exhibition, has not been in vain:

LIST OF AWARDS TO UNITED STATES.

MEDALS AWARDED TO

Mosheimer, J., for collection illustrating the newly explored mineral wealth of Nevada.
Glencoe Starch Co., for samples of excellent starch.
Hotchkiss, H. G., for winter green oil.
Kingsford, for silver gloss starch.
Pease, S. F., for petroleum, benzoine, &c.
Philadelphia College of Pharm., for fine collection of vegetable drugs, Native American.
Pease, S. F., for collection American oils.
Tilghmann, for fatty acids, obtained from aqueous saponification.
Wilkins & Co., for fine collection of bristles.
Blanchard & Brown, for wooden wheel spokes of most excellent quality.
Brewster & Co., for a phaeton.
Howe Machine Co., for collection of sewing machines.
Smith, A., for loom for weaving tufted carpets.
Richard, W. D., for improved boot and shoe machinery.
Andrews, W. D., centrifugal pump and engines.
Blake, for stone-breaking machine.
Ericsson, Capt. John, for the originality of his hot air engine.
Gibson, S. G., for improved carriage coupling.
Goax, J. C., for belt shifter.
Conway, E., for cork cutting machine.
Goddard, C. S., for burring picker.
Hanshaw, for pumps.
Kershaw & Colvin, for novel and useful cow milking machine.
Lee & Larned, fire engine.
Near, C., dynomometer.
Parker, D. washing machine.
Pesant, as exhibitor of Ericsson's hot air engine.
Porter, C. T., inventor of governers.
Ross, J., conical burr stone mills.
Steele, Henry, steam pump.
Wilcox, hot air engine.
Worthington, R. H., steam plow.
Colt, for the principle of his revolving arms.
Sickels, F. E., steam steering apparatus.
Ward, W. H., night signal telegraph.
Darling & Schwartz, steel scales and straight edges.
Steinway & Sons, powerful, clear and brilliant tone of piano, with excellent workmanship.
Bates, Robt., series of ingenious instruments for relief of stammering.
Manchester Print Works, fine collection of printed fabrics.
American Bank Note Co., variety and excellence of security bills.
Saxton, new process for sealing official documents.
Sweet, S., ingenious process for producing blocks for printing.

HONORABLE MENTION.

Meads, T., for collection of native copper and silver from Lake Superior.
New Jersey Zinc Co., fine spiegel iron produced from Franklinite.
Stebbins & Co., superior flour.
Waddel, J., Indian corn.
Bigelow for Goodwin, machines for sewing boots and shoes.
Singer, J. M., collection sewing machines.
Wilcox & Gibbs, improvements in construction of their sewing machines.

Blake Brothers, stone-breaking machine.
Liguer, F. O., printing press.
Sanford & Mallery, scutching machine for taking fibre from leaves of aloes.
Whipple, P. H., machine with 18 adjustible drills.
Conway, cork-cutting machine.
Russet & Truman, reaping machine.
Kirby & Osbourne, reaper and mower.
Levi A. Beardsley, hay elevator.
Dexter, series of busts of Governors of States in America.
Manchester Print Works, worsted, mixed fabrics and hosiery.
Wilkins, V., excellence of curled horse hair.

From the above list it will appear that the United States have drawn 54 medals and 31 diplomas, which, in view of the fact that the whole number of entries was but 96, is certainly a most remarkable success—the prizes being in proportion to the entries as about 7 to 8. The proportion of prizes awarded in the whole exhibition is as 1 to 5. America is therefore immensely ahead.

But it is not alone in the proportion of prizes that we have excelled. The character of the objects for which awards have been made is also worthy of notice, as being chiefly important inventions, which must exert a great influence on the industrial progress of the age.

GRAND EXHIBITION OF THE ROYAL HORTICULTURAL SOCIETY.

The most magnificent show of plants, flowers and fruits that we have ever had the pleasure of seeing, was made a day or two since in the Kensington Gardens adjoining the Exhibition building. We have no time to describe the display now, but shall endeavor to do so in time for the next number.

The Great Exhibition.—LONDON, June 8th.—Leaping over the intervening space between the writing of our last, or rather suppressing until the next number the publication of further travels, we hail our readers again from the fog-bound isle of Old England.

It will be remembered that we left a month ago because the Exhibition was not yet fully ready for profitable and satisfactory inspection. But now it is ready in every proper sense of the word. Wonderful are the transformations which it has undergone, and to-day it stands forth before the whole civilized world, a miracle of what the ceaseless industry of the nation is doing. Oh, it is glorious beyond any possible description. Years could be spent in its study, but to us are given only weeks and months. The first of a series of papers on the various departments of the Exhibition, and on the several nations represented, will appear in the next number.

The National Association for the Advancement of Social Science.—This honorable Association has been in session since the 6th inst., Lord Brougham, President, in the chair. Enjoying the honor of membership, we have attended many of the meetings and participated in its proceedings. Many questions of the greatest importance have been considered by the ablest men in the kingdom, and a report, in synopsis, of some of the meetings, the subject matter of which is appropriate to this journal, will appear in the next No.

The Editor's Tour on the Continent.—PARIS, May, 1862.—Out of the rain and fog, and smoke, and everlasting jam in the narrow, crowded, dingy streets of overgrown, hardworking London into the clear sunshine of Paris, with its broad avenues, beautiful gardens, charming fountains, deep shady woods, magnificent public works, monuments and statues, all made more brilliant and enchanting by the gay and happy mood of the pleasure-taking and pleasure-making population—what a change! We can hardly realize it, and find ourselves asking, again and again, "Is this not, after all, a fairy dream, which will leave me at the waking, still in the midst of gloomy London, elbowing our way to the Great Exhibition?"

To describe Paris in a brief and hurried letter, such as this we propose, which must compass the entire route of our journey through France and into Switzerland, is, of course a thing impossible. At some future time we may take up the more important places and objects a little in detail.

Glowing descriptions of Paris had prepared us to anticipate much of the beauty and magnificence which characterize it to a degree above and beyond every other city in the world; but like the Queen of Sheba we found that the half had not been told. Years ago it was famous for its numerous broad avenues and boulevards, smoothly paved and bordered with shaded walks, fountains and flowers, for its magnificent palaces, its fine old churches, its extensive water works, its public institutions of every grade and character, its splendid galleries of paintings by the world's best masters, and for the profession of noble statuary; but within the time during which Napoleon III. has been Emperor, so much has been done to adorn and beautify the city, that to those persons who saw the city even as late as in 1850, Paris is doubly Paris now.

Among the most remarkable features is the apparent universal happiness of the people. Of course it is impossible that in a city of almost a million and a half of people there should not be much want and wretchedness; yet after a thorough inspection of it, in all its parts from the palace of the Emperor to the humble dwelling in the most forbidding back alley, we are prepared to believe that, in this respect, there is no city of like magnitude equal to this in the world. During our stay of several days we witnessed no collision of man with his fellow, heard no hard words and were not once asked for alms. Always cheerful, affable, approachable and genuinely polite, they seem to require nothing but a little more solidity and a higher religious faith and life to make them the most agreeable people to live among in the world.

Napoleon seems to understand them perfectly well and admirably, as we think, adapts his administration to their peculiar traits of character—achieving glory for the Empire by his feats of arms, adding by means of the most prodigal expenditures to the transcendant beauty and attractiveness of the capital, and at the same time holding them to their places by the unyielding reins of a strong despotic government. It is thus that he is popu-

lar among his own people in spite of his tyranny. If he can only financier his treasury into a more sound and happy condition, we can see no reason why he may not continue during the whole period of his life in the enjoyment of his imperial throne.

AGRICULTURE.

But we have not forgotten in the midst of all the dazzling splendor of the court and city that the chief object of our visit to France was of a professional, rather than a pleasure seeking character—to study the industry of the country.

Thus far the agriculture of the Empire had been a surprise to us—much better than we had been led to expect. From Havre de Grace to Paris the country looks like one continuous garden. More beautiful fields of wheat, rye, oats, sanfoin, lucerne and potatoes we have never seen. There are beautiful hedges along the railway and around the dwellings, but otherwise no enclosures for miles—the division lines between farms being indicated by stone posts here and there.

THE AGRONOMIC INSTITUTE AT GRIGNON.

This institution, the leading one of its kind in France, is located some 40 miles from Paris; the way to it lying through Versailles. We devoted two days to its inspection with results of mingled pleasure and disappointment—pleasure in seeing that the institution is really doing an important work for the agriculture of the country; of disappointment that the buildings and the appointments of the school and farm were not kept in a better condition, i. e., in a condition calculated to make a better impression upon the stranger and to afford a better example to the pupils who are themselves to become either instructers in turn or "model" farmers in various parts of the world. The school is supported by the Government and partly by the fees paid by the students. It is represented as being in a flourishing condition and has the confidence of the public. At another time—when we shall have done *seeing* and are prepared to write—we shall give a full account of its plan and working.

FOUTAINEBLEAU.

We have at last torn ourselves away from the enchantments of Paris, but find ourselves in the midst of others of like character.

Foutainebleau—by which *we* mean the old palace and gardens and forest were the Kings and Emperors of France since the days of Louis VII. have delighted themselves with the beautiful scenery of the place, the splendid works of art, and the exciting sports of the wood—is a peep at paradise! No wonder we lingered by its beautiful lakes and streams and wandered by moonlight in its majestic, glorious wood until the mute statues and half-hushed birds were our only companions and the iron gates were closed! The gardens and fountains too are most lovely—partly *a la* Versailles, partly unique.

The Palace occupies ten or twelve acres of ground, and though not so grand in its external as the Louvre and the Tuilleries is nevertheless magnificent, and is gorgeously decorated within. It was a favorite with Napoleon the Great and Josephine, and the apartments are pointed out which they were wont to occupy for private use.

LYONS.

We came to this place down the beautiful Saone, (pronounced *Sone*,) stopping at Dijon and Chalons sur Saone. Crops of grain and grass looking well, though the cultivation is hardly as good as in Northwestern France. The vine shows itself on the way, clothing many fields and all the favorable hill sides. It is looking splendidly and gives good promise of a great crop. The grass crop is about half cut, (May 24,) and the wheat is perceptibly beginning to change its shade of deep green to a brighter hue. Scenery on the Saone much of it very beautiful; rivalling, it is said, that on the Rhine, which we have yet to see.

Lyons is the great silk city of Europe; numbering some 700 large establishments where it is manufactured. It was these manufactories that brought us all these 316 miles from Paris, and we feel that we have been well repaid for the journey. The city itself is well worth a visit, being one of the handsomest, as well as one of the most populous in France. It is located at the junction of the Saone with the Rhone, lying between and on both sides of these charming rivers. The Rhone is crossed by eight fine stone and suspension bridges, the Saone by nine. Population, including the suburbs, about 275,000. On the north side lies a mountain, from the top of which, in a clear day, the summit of Mont Blanc, though distant an hundred miles, is said to be distinctly visible.

The process of silk manufacture is most interesting, and we regret that we have neither the time now, nor the necessary diagrams, to give our readers some insight into it. We saw silks of every pattern and color in the thousands of looms—all worked by hand and foot—and only wished we could present each of our lady friends, the world over, with a robe of some of them, which seemed to us most beautiful.

GENEVA, Switzerland.—A delightful ride along the banks of the wild blue Rhone has brought us to this gem of a Swiss town so famous for its beautiful natural scenery, for the great men, such as Voltaire, Calvin and others who made it their home, and for the extensive manufactory of the best watches and clocks known in the world. With Lake Leman (Geneva) on the North, the mountains of Savoy (late a part of Sardinia) and the picturesque valley of the Rhone on the South, the Jura mountains on the West and the majestic Alps, crowned by Mont Blanc, on the East, there is no city in Europe of superior natural interest and attractiveness. After a stay of two days, climbing the Jura, riding on the lake watching the dashing heaven-blue waters of the river which divides the city and furnishes water power for its mills and manufactories, and last of all looking into the mysteries of watch-making, we are every hour more loth to leave. But Mont Blanc is beyond, standing majestic behind the veil of clouds which unhappily obscure his face, and provoke us to the task of climbing the mountains which lie be-

tween. The decision is made, therefore, and our next letter shall be written in the midst of his glittering peaks and eternal ice.

The Editor's Apology.—It will be understood by all our readers, we trust, that no man is competent to do two things at one and the same time. It is on this account that our pen has done but very little for the FARMER since we left America. The time of our stay must necessarily be very short, and it seems better for us and them that that time should be spent in gathering up stores of information which may be communicated to the public after our return. Will not all the farmers say "amen"?

The Editor's Return.—Our friends may confidently expect to see us at the old post of duty and labor early in August, and even earlier, should advices from the Board of Agriculture require an earlier return.

CORRESPONDENCE.

Strawberry Profits.—FRIEND CAMPBELL:—Since I saw you, I have been too busy until now to make out the statement of my strawberry crop the present season. Below I give you the figures, which show that it not only pays to raise strawberries as a table delicacy, but for profit.

My patch consisted of about ninety rods; off of which we have picked 38 bushels:

RECEIPTS.

31 bushels sold for	$113 43
Strawberry plants	48 00
5 bushels currants off same ground	8 00
Total	$160 43

EXPENSES.

Cost of picking, 1 cent per quart	$9 92
Express and commission	12 78
Total	$22 70

Leaving a net profit of $146 73. T. S. COLTON.

PALMYRA, July, 1862.

[Handsomely done for half an acre of ground.—ED.]

"Peas among Potatoes."—ED. FARMER:—It is with pleasure I read your publication, and I believe I will never do without it again, it is valuable for most every class of people to read, for the reason that it hits upon almost everything; and I would advise everybody hereafter to take the FARMER; but I noticed one rather absurd idea, to my notion, in your June number headed, "Peas among Potatoes." It is true, I admit, most persons are very fond of green peas; yet where is there a farmer around but can spare a piece of ground big enough for a pea patch, and there is no need of it being said, "we are out of green peas!" for most any farmer has land enough to plant the second crop, as is suggested, to drop the seed pea in the potato hills. What appears so absurd to me is this, that a pea planted with potatoes don't want the same tending. A pea should be planted as early as possible in the spring, and isn't necessary to plant potatoes quite as early; therefore the pea will come up sooner even planted with the potato than the potato, and they are required to be hoed as early as possible after they are thoroughly up, and then they never should be hoed after they blow, and they being much the tallest of the two, it hinders the blows of the potatoes from blowing on one another; consequently whether they would be part peas and part potatoes remains to be tried; but there can't be much potatoes, for the peas take all the blossoms, and also will entangle the potato vines so they can't be worked.

The piece I noticed in your number was quoted from the *N. E. Farmer*. GEORGE.

MADISON, Wis., 1862.

Leicester Sheep.—J. W. HOYT, Esq., *Dear Sir*:—I wish to inquire if you can inform me where in this State or Illinois, I can buy Leicester Sheep, or part bloods, and at what price. We have but about twenty sheep in this county, and I wish to procure one hundred or more this autumn. We have good grazing lands here for sheep, and this branch of industry, or rather stock growing, would materially add to the wealth of our county.

H. A. TEMPLE.

CENTRALIA, Wood Co., Wis., June 2, '62.

Langstroth Hive.—GENTS:—Will you please inform a subscriber to the FARMER, how I can get the Langstroth Hive and his Book on Bees, and what each would cost. JOSEPH CHICKEN.

CALAMINE, Wis., July 7th, 1862.

[At this time when bees are doing well, and the public mind is largely interested in their culture, we are surprised that parties interested in the improved styles of hives do not advertise their business through the FARMER, for the public good. It will pay.—ED.]

Will Blood Sheep Pay.—MR. EDITOR:—In looking over the back numbers of the FARMER, I perceive there is quite a disposition among your subscribers to communicate through the columns of your journal, any seeming success which may have been attained by them in their different occupations. And as we in the vicinity of Whitewater have been, and are doing, something in the improvement of sheep, I deem it but proper that I should call your attention to a few facts that have fallen under my own observation, and again make the enquiry which has before been made through your columns, Will blood pay?

Five years ago next October we purchased of Ebner Porter, of West Rutland, Vt., 63 full blood Spanish Merino Ewes, bred by himself; since we came in possession of them, we have used Mr. Hemenway's Stock Buck "Matchless," and his stock to the "Robinson Rich." We have sold from that stock over $1,000 worth of sheep, and have on hand a flock of 150, twenty of which are the original ewes. They average 6 pounds, the increase 80 ewes (having lambs) averaged 7½ pounds; 20 yearling

ewes averaged 7 pounds 6 ounces, all clean washed wool; 10 bucks, 7 of which are yearlings, averaged 12 pounds; 20 wethers averaging 9 pounds, making an aggregate of 1,047½ pounds of wool from 130 sheep, or an average of a fraction over 8 pounds per head.

In conclusion I will say that the cost of keeping the above flock is no more than one that shears two-thirds the amount per head. Hence, I am compelled to think that Blood pays. C. M. CLARK.

WHITEWATER, July 21st, 1862.

STATEMENT

OF THE

Madison Mutual Insurance Company,

FOR THE YEAR ENDING

JANUARY 1st, 1862.

Made to the Governor of the State of Wisconsin, as required by the provisions of chapter 303, of the General Laws of 1858.

Total amount of accumulations,		$216,865 76
ASSETS:		
Premium notes of policy holders	$180,124 63	
Cash on hand, and due from policy holders for cash premiums,	35,408 66	
Am't secured by mortgage and judgment,	332 47	
Office furniture and fixtures,	1,000 00	$216,865 76
Whole number of policies issued,		14,357
Am't of outstanding risks thereon,		$10,320,789 00
Reported losses awaiting further proof,		3,709 80
Losses recently reported,		3,433 89
Whole number of policies issued in 1861		5,778
Amount of outstanding risks thereon,		$5,315,173 00
Amount of premium notes thereon,		93,944 06
Amount of cash premiums thereon,		48,377 36
Total amount of losses reported during the year,		15,801 13
Total am't of losses paid during the year,		6,881 16
Amount settled by drafts and awaiting the call of the insured,		1,568 85
Amount of commissions paid to Agents,		7,460 84
Am't paid for Advertising,	$1,625 20	
Amount paid for printing,	811 00	
Amount paid for postage,	366 22	
Amount paid for office rent,	200 00	3,002 42
Expenses paid, including all compensation of officers and directors—stationery, extra clerk hire, fuel, lights, and all other incidental expenses,		6,009 56

STATE OF WISCONSIN, } ss.
DANE COUNTY, }

We, the undersigned, being the President and a majority of the Directors of the "Madison Mutual Insurance Company," do solemnly swear, and each for himself saith, that the foregoing is a true and correct statement of the affairs of said company in the particulars therein named, as appears by the books of the company, according to the best of our knowledge and belief.

D. J. POWERS, President.
JOHN W. BOYD,
SAMUEL D. HASTINGS,
B. F. HOPKINS,
TIMOTHY BROWN,
ALBERT WOOD,
G. F. HASTINGS,
H. H. GILES,
SAM'L R. McCLELLAN,
G. R. MONTAGUE,
ORRIN GUERNSEY,
LUTHER BASFORD,
DAVID ATWOOD,
D. WORTHINGTON.

Subscribed and sworn before me this sixth day of January, A. D. 1862. V. W. ROTH, Notary Public, Dane County.

Comparative Statement of the business of the Company for the years 1859, 1860 *and* 1861:

	1859.		1860.		1861.	
Total amount of accumulations,						
ASSETS:						
Premium notes of policy holders,	$35,462 46		$92,487 27		$180,124 63	
Cash on hand, and due from policy holders for cash premiums,	2,986 02		16,509 74		35,408 66	
Aount secured by mortgage and judgment,	332 47		332 47		332 47	
Office furniture and fixtures,	300 00	36,080 95	1,000 00	110,380 49	1,000 00	216,865 76
Whole number of policies issued,		4,807		8,579		14,357
Am't of outstanding risks thereon,		$2,409,965 49		$5,451,115 49		10,320,789 00
Total am't of losses paid and settled,		2,409 45		6,903 31		8,450 01
Losses reported and awaiting further proof,				499 63		7,351 12
Whole number of policies during the year,		1,157		3,772		5,778
Am't of outstanding risks thereon,		$1,140,076 00		$3,916,115 49		$5,315,173 00
Am't of premium notes thereon,		17,109 82		62,789 45		93,944 06
Am't of cash premiums thereon,		11,069 04		35,161 88		48,377 36
Am't of commissions paid to Agents,		3,317 70		10,339 18		7,460 94
Am't of expenses paid, including all compensation of officers, printing, advertising, postage, and all other incidental expenses,		3,317 51		5,847 44		9,071 99

The foregoing statement of the business of this Company for the past year gives a gratifying evidence of its high standing in the public estimation and of the success of its rules and principles of action.

Although its business for the preceding year (1860) was much larger than that of any previous year, and notwithstanding the general depression among farmers the past season, arising from light crops and low prices, the above figures show an increase of nearly *seventy per cent.* in the number of policies issued, and of *over seventy per cent.* in the amount of cash premiums for the past year.

We invite a careful examination of this report. Its figures make a stronger argument than any form of words, and prove a rise and standing in popular favor unparalleled in the history of the Northwest.

DIRECTORS AND OFFICERS FOR THE YEAR 1862:

DIRECTORS.

J. W. BOYD, Walworth County.
B. F. HOPKINS, Dane County.
D. WORTHINGTON, Waukesha County.
S. D. HASTINGS, Trempeleau County.
G. F. HASTINGS, Dane County.
DAVID ATWOOD, Dane County.
G. R. MONTAGUE, La Crosse County.
S. R. McCLELLAN, Kenosha County.

THE WISCONSIN FARMER.

J. W. HOYT, : : : : : : : : : : : EDITOR.

Vol. XIV. MADISON, SEPTEMBER 1, 1862. No. 9.

Farming, or a Love for the Profession Necessary to Success.

"If you would succeed in business, you must be in love with your profession."

Perhaps some of the more sensitive and would-be-refined will object to applying the above maxim to the profession of agriculture; and no doubt such will say, "It might very appropriately be applied to some of the more popular or literary professions; but to apply it to the lower order of professions verges almost on the vulgar.

I, however, shall object to such a verdict, and hope and trust to convince those who have looked down upon us, that husbandry is not a low pursuit, but an honorable, high-toned and profitable profession; and when carried out to the letter, sure to return happy results. But to be successful, you must be in love with the profession.

You may ask how? In what manner? Well, in the first place, you must love to work; love the farm, and all connected therewith, both in regard to profit and pleasure; and take a deep interest in the full development of all its parts. The shrewd, calculating farmer will not do his work "by the halves;" he does it in such a way that he will secure the whole crop.

He loves to see his fields well manured, well plowed, well harrowed and thoroughly pulverized. He will now take great pains to get the best variety of seed, and put it in the ground in a thorough and judicious manner. He will then not only love to, but most assuredly will have the pleasure of seeing the young blades look thrifty, and finally of gathering a bountiful harvest.

He will love to watch the tender plants, and nourish and protect them from noxious weeds or deadly vermin; and will hail with joy the first opening bud or blossom. His interest, care and protection extends equally to the most delicate garden plant, struggling for life between weeds and weather—the tender blade of corn, pointing heavenward, for the sun's genial rays, as well as the sturdy potato, and other hardy plants, which almost defy wind or weather. The farmer is the faithful guardian of all; and he will watch over all with a jealous eye, if he loves his profession. He loves to contemplate his growing crops, as one leaf after another is put forth, until at length, the full ear is formed, and all is well stored in his ample barns.

A model farmer will have his fields, as well as pastures, suitably divided. He not only has a system of rotation of crops, but of fields and pastures, as well; each being used alternately. And if his fancy leads him that way, he will form beautiful and picturesque scenery, and at the same time make it a source of profit, by planting fruit, and other valuable trees and shrubs, around his fields, as well as by the roadside and around his dwelling; and especially will he take great pride in making everything around his home wear a cheerful look. He will have the choicest of fruits and flowers in his garden, the grounds of which will be both ample and tastefully arranged.

Nor do I overstep the bounds of propriety or probability, if I say, he loves to see his wife or daughters engaged with interest in the flower garden; he loves to see them and the roses blooming together; he loves to see everything enjoying life, happiness and prosperity.

And when at length his fields are "white unto the harvest," when his choice fruit trees are bending their branches with a precious burden, and the "golden harvest" of bright, long, yellow ears of corn, and the more modest pumpkin, meet his eyes, what a source of pleasure is here! With what a joyous heart, and with what renewed energy does he ply his skill, until all is secure; and with what gratitude and thanksgiving does he raise his thoughts to the Giver of all good!

His crops all secure, the faithful farmer, true to his calling, loses no time, but again speeds his plow, and prepares for another year. There are stone to dig, ditches and drains to make, land to clear, and other improvements to make; all in their turn, and each in its most appropriate season. And for all this multifarious business, the farmer finds ample time; for his whole heart is in it, and his plans are well laid. He finds what many are seeking after in vain—because they do not seek aright—employment; which begets health, wealth and contentment; and these beget happiness. The secret of all is, "love for the profession;" "love of employment."

And when at length the snows of winter be-

gin to fall, and cold, wintry winds howl around his dwelling, the faithful farmer has the satisfaction of knowing all around him are comfortable; he loves to retire at night, with the happy consolation that nothing dependent on him suffers from cold or hunger.

The farmer not only takes pride in raising good crops, but he also takes pride in raising good stock, which he finds both a source of enjoyment and profit. He loves to feed them, litter and keep them clean and comfortable. In a word, he is interested in their welfare; for what is for their good, is for his benefit. He loves to have them hearty, and to this end gives them a change of food. He loves to see them look sleek, and he knows the "card and curry," with good feed, will do it. But above all, he loves to have the name of having the best stock of cattle and horses in town; and occasionally have some well known Boston cattle-dealer compliment him with "a bigger pile of 'rocks,' than he had paid any body else," for his best fat oxen.

Another pastime our hero of a farmer loves dearly; that is, to sit the long winter evenings with his "gude wife," lovely daughters and promising boys around him; and all enjoying the good of their labor.—*Cor. N. E. Farmer.*

Application of Manures.

As this subject lies at the root of all good culture, you should have it fully discussed; every member should state the result of his practice and observation, and bring all the virtues of the different fertilizing materials to light. I will contribute my mite, with some data. We should cultivate enlarged views; look over the garden fence upon the farm, and consider the value of the products. My own soul was once so small as to bury my brains in a flower-pot, and to think that a garden with a few glass structures was the universe; but now I see what a big place the world is.

It is generally conceded by cultivators, that barn-yard manure is the best for common use; and as it is the droppings of several species of animals, together with straw, I think it better than that of any one species, when applied to clayey soils and heavy loams in its long, fresh state. It warms them, renders them more porous, and allows the roots of rapid-growing plants to enter them more freely. Indian corn, potatoes, melons, squashes, &c., seem to do best upon heavy soils with fresh barn-yard manure; but for sandy and light soils it is best when well rotted, and in that state has a more immediate effect on crops in general. For potting plants it should be almost a mold, and be mixed many months with the soil before being used.

Ligneous manures I think must be most beneficial to trees and other woody plants, although seldom ever applied to them. Leaf mold is almost indispensable to pot culture, and the mold at the bottom of the wood-pile is better; wood ashes leached are used extensively upon sandy soils, produce good crops, and solidify such soils. Waste charcoal is valuable in pot culture, but too expensive for general use. Saw-dust is all converted into manure around the city of Edinburg, Scotland, by bedding cows and horses with it. Tan-bark is also there converted into manures by composting it with other materials, and nurserymen grow the hardier rhododendrons and azaleas in beds out doors, made up with two-thirds of decayed tan-bark and one-third garden loam.

Salt as manure hastens vegetation, and gives earlier maturation to plants than any other kind of manure. I have used night soil, fresh from the walls of this city, upon acres; and for onions, beets, radishes, turnips, and carrots, I have never found anything to equal it for early and heavy crops. Poudrette has a similar effect, but these rich manures make cabbage "club-footed," and do not suit potatoes. The low meadows around Edinburg, into which the sewers of the city empty, yield the greatest crop of grass to be found; they are divided into lots of three and four acres by ditches which lead the liquid manure around them, and are flooded with it at pleasure; they are let yearly at auction to dairymen. The grasses are fit to cut by the time that grasses elsewhere begin to grow in the spring; they give seven cuttings knee high, and so heavy that the scythe can hardly carry the swath through. The market gardeners of Leith surpass all their contemporaries more inland in the production of early and fine vegetables, by the use of sea-weed they gather off the beach after a high tide or storm.

Upon the flat meadows of Long Island Sound, between Harlem and Throg's Neck, the grass, after being flooded by the spring tide, grows up at a wonderful rate; and asparagus of the finest quality springs up spontaneously all over these. Country people empty the brine of their meat and fish barrels in spring upon their asparagus beds, which is the only manure they get, and they yield plentiful crops. I have used both salt, lime and urine around the base of peach and plum trees for the cut worm, which always keeps them off and invigorates the trees.—*Walter Elder, in Proceedings of Progressive Gardener's Society.*

WHERE ENGLAND GETS HER TIMBER.—Great Britain and Ireland import annually some 27,000,000 cubic feet, or 540,000 loads of Canadian pine timber, the greater part of which is manufactured on the Ottawa river and its tributaries. The operations of this manufacture extend over upward of 11,000 square miles, and gives employment to more than 40,000 men.

The Quality of Milk.

When the Duke of Athole offered a premium in April last for the cow giving the greatest quantity of milk, at ten successive meetings, Prof. Anderson expressed his willingness to analyze the milk of the competing cows, without expense to the noble Duke or the Ayrshire Agricultural Association. This handsome offer was gladly accepted, and fair examples of the milk of the eight cows were drawn and forwarded to the laboratory. The results of the chemical examination were communicated to the Judges of the competition in the following letter:

	No. 1.	No. 2.	No. 3.	No. 5.
Water	88.23	88.52	88.28	86.93
Butter	3.67	3.01	2.71	4.17
Caseia	2.88	2.87	3.04	2.91
Sugar	4.44	4.57	5.17	5.21
Ash	0.78	0.73	0.80	0.72
	100.00	100.00	100.00	100.00

	No. 6.	No. 8.	No. 9.	No. 12.
Water	87.32	87.60	87.56	88.12
Butter	3.65	3.48	2.92	2.69
Caseia	3.14	3.07	2.88	2.93
Sugar	5.07	5.04	5.89	5.49
Ash	0.82	0.81	0.75	0.77
	100.00	100.00	100.00	100.00

The numbers attached to the samples are these on the bottles in which they were sent.

It is to be noticed that the difference in composition of the different milks is, with the exception of No. 5, by no means considerable. We see particularly that the casein is almost identically the same in all the eight specimens. The chief difference is in the proportion of butter, and it is here No. 5 surpasses the others, as it contains nearly 1.5 per cent. more of that substance than some of the others. As the butter is the most valuable constituent of milk, there can be no hesitation in setting down No. 5 as decidedly superior to any of the other specimens. It will be interesting to know how the results of analysis tally with the decision the Judges have arrived at on other grounds, and to facilitate comparison I may say that after No. 5 come Nos. 1, 6 and 8, which are nearly equal. Then Nos. 2, 12, 9 and 3, which are also pretty equal, but stand on a lower level.

I am, dear sir, yours truly,
(Signed) THOMAS ANDERSON.
A. B. TELFER, Esq., Ayr.

These analyses demonstrate the worthlessness of the small glass tubes, commonly called lactometers. This instrument not only does not approximate to the truth, it goes farther in the way of misleading, by sometimes pointing to conclusions which are the reverse of truth. The milk which Dr. Anderson's analyses proved to be the best was from the cow belonging to Mr. Reid, Clune. On the trial at Holmston, the milk of this cow showed the smallest per centage of cream in the lactometer. On the other hand the cow, No. 12, seemed to have the largest per centage of cream, yet the analytical tests prove that it is the poorest of the whole. Mr. Reid's cow gave 8 per cent. of cream, according to the marking of the lactometer; No. 12 gave no less than 15 per cent. A stock of cows like No. 12 would be more useful to a town dairyman than to a farmer. They would give a large quantity of indifferent cream, and a residue of very poor skim milk.—*Agricultural Advertiser, Scotland.*

Rainy-Day Thoughts.

The mechanic receives his seventy-five cents a day, and yet remains poor; while the farmer earns his seventeen cents a day, and grows rich. Merchants, physicians and lawyers receive their thousands per annum, and die poor; while the farmer, scarcely receiving as many tens, dies rich.

How are these strange results produced?—All calculations of dollars and cents fail to account for it. Those who are determined to bring everything to the standard of dollars and cents pronounce agriculture to be wholly without profit, and fit only as a pursuit for those who have not sense enough to pursue anything else.

Let us now endeavor to account for this seeming impossibility. When the mechanic lays down his tools, and the professional man is idle, they are sinking, because their expenses are going on, and their profits are suspended. Not so with the farmer; while he sleeps his crops grow, and his stock is on the increase.

Farmers grow rich by saving, and others grow rich by spending. Others have first to make the money and then spend it for food. The wants of a farmer are few that cannot be supplied from his farm. Why, then, should the farmer repine because he has not money to buy abroad, or measure his wealth by comparing his money with that of others who must give all for things which he has without buying?

Herein lays the secret of a farmer's success: in raising everything, as far as possible, on the farm, and buying as little as he possibly can.

Nor is this mistake the only one made by farmers. They all want too much land and too much stock for their land. Remember that fifty acres actually worth one hundred dollars per acre is worth more than one hundred acres at fifty dollars per acre; because one-half the work expended on the first will raise as much as the whole amount expended on one hundred acres. In the same way with stock,—it is better to fatten five head of steers well than ten only half done, because they will sell for more, and you will also save the interest on one-half the investment.

Thus we see that as soon as a farmer gets his farm paid for, and begins to make money he must buy more land and more stock, and go on until he either breaks up or sells his land.

I could now point to several farmers who own farms of from two hundred to three hundred acres, whose actual income is less than when they commenced with seventy-five or one hundred acres. The reason is obvious: they increase their land without increasing their active capital; they spread the same amount of labor, manure and capital over one-fourth or one-half more land, and receive no actual increase of crops in return; whereas, the farmer who expends his surplus capital in manures, draining, &c., &c., receives an increased return in exact proportion to the amount of capital which he invests in such improvements.

There are hundreds of farmers now among us who would be much better off if they were to sell one-half of their farms, and invest the proceeds in the remaining half.

Another class will, as soon as they have surplus capital, convert it into railroad, corporation or bank stock; or, worse still, in western land, instead of laying it out for manure or tile for the improvement of their farms.

Old English farmers, who have had long experience in draining, say that when judiciously done it will return the original investment once in every three or four years, or in other words, pay from 25 to 60 per cent. per annum. The same might be said of investments in lime and manure.

By proper management I am fully convinced that an acre of ground can and will yet be made to give one hundred bushels of corn. Any one can see the advantage a farmer working one acre of such land would have over his neighbor who was compelled to plow, harrow, plant and work two acres for the same return.

If you have more capital than you can use, then make use of more labor, plow deeper, harrow and cultivate more on the same ground; one acre with a soil twelve inches deep, is worth more than two on which the soil is six or seven inches deep.

In recapitulation, allow me to direct your attention to several other mistakes, as well as those already mentioned:

A farmer should not keep more cattle, sheep or hogs than he has food for. If he has too many sheep or cattle on the pasture, it becomes very short towards fall, and he must either commence on his stock of winter food sooner, or let his cattle or sheep suffer. If on the other hand he has more stock than he has winter food for, he must turn out to pasture sooner in the spring, much to the detriment of his meadows, or buy hay for his stock. I have seen many farmers who would have been actually better off if they had given two or three head of cattle away in the fall, and fed the whole of their keep to the balance, than to feed as they did. It is an old and true saying that an animal in good order the first of December is already half wintered.

A farmer should never depend upon his neighbor for what he can produce himself; never beg fruit while he can so readily plant trees, or borrow tools when he can make or buy them; "for the borrower is servant to the lender."

A farmer should never be so taken up with political affairs as to neglect his farm; yet he should not be entirely ignorant of those matters of national or State policy which always agitate a free people.

A farmer should shun the doors of a bank as he would a plague; they are for speculators, with whom a farmer should have nothing to do.

No farmer should allow the reproach of a neglected education to lie against his family. "Knowledge is power," and its foundation should be early and deeply laid in the district school-house.

A farmer should never refuse a fair price for anything he has to sell, for any rise of price which may or may not take place will generally be swallowed up by the interest upon the capital invested in the article,

As has been proved by your friend, AGRICOLA, *in Ger. Telegraph.*

Grass Lands—Seeding and Manuring.

The reseeding of grass land by ploughing it just after a crop of hay has been taken off, and sowing the seed on the inverted sward, has been practised more or less in this vicinity for several years, and appears to be gaining favor. There is much land that is more profitable for grass than for anything else, and the mode alluded to admits of a continuation of that crop without intermission. The first crop after seeding is somewhat later, but seldom fails to amount to a fair yield if properly treated.

The present is a favorable season for this mode of reseeding grass-land. The moisture of the ground, from frequent rains, renders it easy to be ploughed, and at the same time favors the rapid decomposition of the sward, which affords nourishment to the new crop. The seed will germinate readily, and the young grass will be pushed forward, obtaining strength of root to secure it against injury by frost.

In the preparation of the ground it is quite important to roll it heavily, after it is ploughed and before the seed is sown. The advantages of this are two-fold: 1. The edges of the furrows, and all other points which appear above the general surface, should be so compressed that the old grass will not be likely to start, and that the ground may be made level. 2. Grass, like wheat, requires a pretty firm soil. A little light earth for the seed to vegetate in, is necessary. After the ground has been sufficiently rolled, a very light harrow will loosen enough of it to make a seed-bed.

Unless the ground is very rich, it will be advisable to apply manure of some kind at the time of sowing. Precisely what manure can be applied to the best advantage, will depend on the particular circumstances which surround

the farmer. If he has common barn or yard manure at hand, so well rotted that it will crumble down fine, a few loads to the acre, spread evenly and harrowed in, will start the young grass, ensure a good sward, and a good crop the following season. If such manure cannot be had, superphosphate of lime, ground bones, or ashes, may be used. But if experience has not already proved the economy of using the latter manures on the kind of land and for the purpose indicated, it will be advisable to apply them on a somewhat limited scale, and in such a way that the exact effect of them may be known.

The top-dressing of sward is a matter of importance. Experience has amply proved that some land may be kept permanently in grass by this means. Much has been said in regard to the best time for top-dressing grass-lands. Farmers who have had considerable acquaintance with the subject, say they prefer making the application on mowing-lands soon after a crop has been taken off, provided the weather is moist. It is not often that such weather occurs here at the season alluded to; it is generally dry, and the manure if spread is liable to lie sometime without producing much effect. But this year the case is different. The abundant moisture in the ground causes the grass to start rapidly where a crop of hay has been taken; so that manure spread on the surface would not only be kept moist, but it would soon become embedded in a growth of green grass, and, if tolerably fine, the sward would become matted above it.

Objections to top-dressing probably still lurk in the minds of some farmers—especially to the surface application of manure for a considerable length of time previous to the growth of the crop it is particularly intended to benefit. Hence it may be urged by some, that to spread manure in summer or autumn for the benefit of the grass crop of the following season, would render it liable to be wasted. It is contended that the manure is liable to be washed away, to have its strength leached through the soil, and dissipated in the air.

In regard to the first of these objections, it may be remarked, that slopes of such declivity as to render common farm manure, spread on them, liable to be washed off, are unsuitable for top-dressing, except it be with saline manures, the properties of which might be at once soaked into the soil. As to the alleged loss by leaching, it is only on quite porous soils that this would be likely to occur, and such are not those for which top-dressing is recommended. This mode of manuring is only adapted to moist lands which are capable of supporting a constantly-green and vigorous turf. Of course they are not porous and dry, but contain sufficient clay to make them retentive of moisture, and also to possess a strong affinity for the more valuable elements of manures. It is true that the experiments of Prof. Voelcker prove that it is possible to leach potash and other manurial matters from soil containing a fair proportion of clay, but these results were only obtained when a *very large* quantity of liquid was applied. The examination of drainage water by Prof. Way, showed that under the ordinary rain-fall, soils of sufficient tenacity to require draining, retain their fertilizing elements, or that the water at least extracts but a trifling amount. With very loose soils the case would probably be different.

In regard to the waste of manures by evaporation,—a point which has been much discussed, and on which difference of opinion still exists,—it is sufficient to say, that it is not intended to advise the application of manures by top-dressing under circumstances where such a result would be likely to ensue. It is not intended that the manure shall be dried up, or exposed to extremes of wetness and dryness. It is well known that moist earth possesses a very strong affinity for manures, and in ordinary cases, grass-land which it is advisable to top-dress will be sufficiently moist to prevent the exhalation of any fertilizing elements.—*Boston Cultivator.*

Economy and Economizing.

These are two words which are now all the rage among our farmers, and it is amusing to see how well some of them understand them.

Their economy and economizing is like that of the man who, seeing that his cider barrel was leaking at the spile, turned it over to tighten it, but did not notice that the bunghole was open and under.

Let me draw you a picture of some of our farmers who are economizing (and there are by far too many such.) He cannot apply any lime this year, because he must economize and can't afford it; or, in other words, cannot afford to spend one dollar now that it may produce ten in a year or two.

He cannot afford to hire a man, and so his corn goes unworked and the crop is materially shortened; his ground is only half plowed, because he has not time to do it well himself, and thereby loses several dollars to save one.

He does not place his manure under shelter in the spring, because he cannot afford to hire a man to do it, and has not time to do it himself; and yet will tell you if asked that one load of sheltered manure is worth two of that not so taken care of.

He discontinues taking (if he ever did such a thing) an agricultural paper, and thus places his finger in the spile and leaves the bunghole wide open, with a vengeance.

He cannot afford to buy plaster for his clover and corn, although he knows that it will do much to increase his crop; whereas, if he were to apply plaster to his grass, he would double or treble his money in a very short

time, and the surplus might go towards hiring a hand.

The fact is that he begins his economy and economising at the wrong end. He breaks up more ground, and spreads the same amount of labor—and less labor—over a larger surface, and lies under the impression that he is thereby obtaining larger crops, whereas, if he would cultivate no more ground than he has manure and labor for, he would be the richer for it.

The mainspring of economy in agriculture is increasing the amount of manures: this is the very item which our economising farmer omits. Everything which will make manure should be thrown into the barnyard or pig-pen; the size of the compost heap should be increased; but have all the help you need, for that is or should be the last thing to decrease on the score of economy.

There are hundreds of ways in which farmers may economise if they will, and only go at it in the proper manner.

If I were going to adopt a more rigid system of economy, I should hire an additional hand, and make him pay his own and his fellow's wages, even if he did nothing else but collect materials for manure.

Our farmers are only just beginning to understand the meaning of these two words, "economy and economising."—*Ger. Telegraph.*

Manuring with Green Leaves.

The practice of burying the weeds and other refuse of the garden in the trench while digging, is probably as old as the science of horticulture itself; but it is one which requires to be occasionally adverted to, were it only for the purpose of showing its utility. At this season of the year, when the hoeing and weeding processes are going forward, the subject is worthy of a short notice. There are few gardeners, either professional or amateur, who do not know the value of leaf mould for the purpose of striking and raising the finer kinds of plants; but it seems questionable whether as much attention is paid to what may be called vegetable mould as the subject demands. All soils contain vegetable matter in a greater or less degree, and there are some soils, such as those of America, which are almost wholly composed of it.

The vegetable matter, indeed, which is contained in the soil of the backwoods of America has naturally enough been regarded as the cause of its fertility. "Indeed," says Liebeg, "this peculiar substance appears to play such an important part in the phenomena of vegetation that vegetable physiologists have been induced to ascribe the fertility of every soil to its presence. It is believed by many to be the principal nutriment of plants, and is supposed to be extracted by them from the soil in which they grow. It is a product of the putrefaction and decay of vegetable matter." Without discussing the matter very minutely, it may be stated in a general way that the value of green leaves as a manure is scarcely sufficiently recognised, especially in cottage gardening. In the spring of the year, when the gardens are cropped, it is no uncommon thing to see a bush of greens or winter cabbage cut up, carefully collected, and frequently removed to a considerable distance, merely to be out of the way. This, of course, was simply the result of not knowing better. Had the same matter been in the form of a cart load of manure, its value would have been better understood although it might not have been so well adapted to the peculiar circumstances. Manuring with green leaves has been systematically practiced in many places with success. A gardener who has practiced it for years, says that he is never at a loss for manure as long as the greens and other large leafed vegetables last. Indeed, on account of its forcing qualities, he rather prefers it to common manure; and, in support of this theory, he showed us a plot, a part of which had been planted with common manure, and the other with the leaves of the common green. The difference in appearance was certainly in favor of the portion planted with the green leaves. They were farther advanced, although planted at the same time as the others, had a fresher look, and seemed altogether in a more satisfactory state. The same authority states that the ultimate yield is quite as good as that raised by any other means. Nettles, a somewhat troublesome plant to cottagers, may be put to the same profitable use and, indeed, almost every other garden weed. —*Scottish Farmer.*

Cutting Grass too Close.

There are many in this section who believe that grass may be cut so close, on smooth land, as to materially injure the roots, and consequently tend to lessen the succeeding crops. It seems to be quite generally thought by those who till smooth or alluvial farms that if herdsgrass is cut below the first joint, or grazed equally close, it will last but a very few years in either field or pasture.

A farmer in Massachusetts has just given his opinion that the wheels and cutting bar of mowing machines run out our mowing lands by injuring the roots of the grass in passing over them. I can easily a few thus injured, and so imagine with the tramp of oxen and cart, in hauling the hay, but many more by having the crown of the roots clipped off so deeply that the root dies before it heals over; and I was glad to see, through the *Farmer*, that there are those in other counties who have come to the same conclusion.

Very close or hard feeding pastures has, farther back than my cognizance goes, been known to run out the cultivated as well as the wild grasses, and why not just as well if cut

off close to the ground? Sheep will eat clover and timothy, tops and roots, nearly all out in one spring, if permitted to feed early and closely upon them.—*Cor. Maine Farmer.*

STOCK REGISTER.

Light and Ventilation in Stables.

Mr. Editor: In compliance with your request, I have, rather hurriedly, indited my views, the result of my experience and careful observation, on this vitally important subject.

Momentous as it is, it has received, in this country at least, very little attention; hence, is very imperfectly understood.

I believe that the present time is a favorable one in which to call the attention of live-stock owners to the importance of guarding their animals against all probable causes of disease, that they may avoid the losses consequent.

The jeopardy that impends our herds, studs, and flocks, in the form of that dreadful pestilence, which may, if not checked in its mortal course, completely prostrate the great agricultural interest of our country by destroying our beasts of burden, ere we have perfected and adapted to general use the steam-plow, and starvation may be the direful consequence.

That Pleuro Pneumonia, the disease to which I refer, can be directly traced as the legitimate result of the exposure of animals to sudden transitions from heat to cold, or from cold to heat, want of properly ventilated stabling, or injudicious feeding, I am not prepared nor disposed to attempt to establish at this time.

But that very many other maladies common to cattle and horses do arise from these causes, especially from improper light and ventilation in stables, has been long and generally known. Their name is legion. They have occasioned incalculable loss to stock owners, and produced an unpardonable degree of suffering on the highest grades of the inferior order of animals entrusted to the care of man by the beneficent Creator, who said to him in beginning, "have dominion over all the *cattle*, and over all the earth."

It is not my purpose even to catalogue these maladies, but to point out some of the most prominent defects in the general system of stable arrangements, and to describe, somewhat in detail, a system that shall be more sanitary in its effects; and shall, as far as practicable, indemnify stock owners against the loss to which I have alluded.

The arrangement of stabling for working animals, whether oxen or horses, requires to be different from that intended only for fattening animals.

For the former, abundant light is necessary, both for the convenience of the attendants and for the optical health of the animals. For the latter, only a sufficiency should be admitted for convenience in feeding and grooming; but each require thorough ventilation.

The temperature of the fattening stable should never be below sixty degrees, when rapid fattening is desired.

As the temperature is reduced it is at the expense of a larger amount of food consumed; on the other hand, a mild, comfortable temperature is an equivalent for a certain amount of food. A large amount of heat is eliminated from the bodies of fattening animals, and where a large number are kept in one stable, it is perfectly practicable, by the mode of ventilation that I shall recommend, to keep the air *warm* and yet *pure*, which is the *desideratum*.

The temperature of the stable of working animals should be kept as cool as practicable in summer, and in winter as near the degree of the external atmosphere as is feasible, except that it should never be allowed to run down quite to the freezing point.

The stable for both working and fattening animals should, at all seasons of the year, have the doors and windows closed, and they should be sufficiently close to exclude flies in the season of them.

No ingress or egress of air should be allowed except by the direct means of ventilation, by which means alone can uniformity of temperature be maintained, and the baneful influence of direct draughts of air on the animals be prevented, than which, perhaps, no defect in stable arrangements has been productive of more suffering to animals, or loss to their owners.

I am aware that my recommendations relative to stable arrangements, particularly those pertaining to closed doors and windows, even to fly proof, will be generally condemned, and denounced as most injudicious, and some may pronounce it fatal upon the animals thus kept.

To all such I would respectfully say, gentlemen please do not condemn without a trial, but hear the testimony, and according to the *laws of nature* pronounce the verdict.

Before describing my system of ventilation I will define the special object arrived at in the use of the mode which I shall recommend.

It is simply to remove the impure, vitiated, and noxious air from stables, the product of the respiration and excretion of animals kept therein, and to provide a perpetual and abundant supply and equal distribution of fresh, pure atmosphere, so that each animal shall get its due share, and at the same time avoid with certainty the injurious drafts or currents of which I have spoken.

The removal of the foul air of that character common to stables can only be effected by one *natural* process, viz: that of allowing it means of escape upwards, and supplying its place with pure and more dense air from the lowest and deepest point practicable.

The location and capacity of both the ingress and egress openings, in order that they shall most perfectly and fully effect their re-

spective offices, is of the highest importance. The escape for the air from the stable should be provided for by the use of a large tight tube, or tubes, if the stable is large. These perpendicular tubes should extend from the ceiling of the stable, where they should be open, through the hay loft and out of the roof, and at least 12 feet above it.

Eight feet of it, from the roof upward, should be glazed on all except the north side, which should be closely sided and lathed and plastered, as also should all below the roof, that it may admit no air except at the bottom. The remaining four feet above the roof should be enclosed on all sides by stationary lattice work, and be neatly roofed.

One egress ventilator three feet square, arranged as I have described, will be ample for a stable containing twelve horses.

The ingress tube that is to afford the perpetual supply of temperate, fresh, and pure air, to take the place of that continually removed by the egress tube, should be of about the same capacity, though it may be narrow and deep.

The location and general arrangement of this ingress tube, which I shall describe particularly and in detail, is of the greatest importance.

It should be laid in the ground, which may always be conveniently done in the country, and generally in the city, and the end most remote from the building, or that at which it receives the air, should be lower than any other portion of it, that no water may accumulate in it, and should be covered at the end with a strong wire lattice or screen.

The deeper this tube is laid in the ground the more effective will it be in cooling the air in its passage through it in summer, and warming it in winter, before it is discharged into the stable, by giving it the temperature of the earth. This is the great feature of my mode of ventilation.

By closing all the doors and windows at all times no air is admitted into the stable except by the way of the underground tube.

The air thus admitted will not be materially affected by the sudden changes in the external temperature, but will be modified by the more uniform temperature of the ground.

It will not be necessary that I should speak of the advantage of excluding the flies by this system of ventilation.

In applying this system of ventilation to city stables, the ingress tubes may often be laid in the bottom of cellars more economically than the entire excavation could be made, and the protection of the tube from the influence of the changes in the external temperature be more perfect.

The air from this tube is to be admitted into the stable through a spacious lattice in the floor of the feeding passage, and as near the centre of the building to be ventilated as is practicable.—*Quarterly Journal of Agriculture.*

Definitions in Veterinary Medicine.

Veterinary Surgeons are employed in contributing to the welfare of animals. But half a century ago, the practice of veterinary medicine was in the hands of men unfitted for the office, as the barbers of old were to practice human surgery, and yet when persons who place their lives in such jeopardy, as we behold numbers doing, by employing empirics, we cannot wonder at the hold ignorant pretenders have on the veterinary art. The immediate object of veterinary medical science is disease, and the animal we most regard is the horse; when deprived of his services by disease, our anxiety to restore him to usefulness is only exceeded by endeavoring to raise our fellow being from a bed of sickness.

A definition of disease has proved a perplexing task. We will suppose disease to be a state in which the functions are disordered. In animals disease presents itself to us in two forms, either as sickness or lameness. When a sick or lame horse is brought to us, our first inquiry is directed to the discovery of the seat or situation of the ailment. This proves an investigation too often embarrassing to the veterinary surgeon. The speechless animal, by signs alone, can make known its complaints, and on the correctness of the influence we deduce from them, must depend our insight into the seat of the malady.

Having formed our opinions on its seat, we proceed to investigate the nature of the disease. Now the powers that control those actions, whose combination constitute all we know of life, are the same that operate to the production of disease. So long as their functions are executed with their accustomed regularity, we say the animal is in health. But whenever any manifest disturbance happens, we say that disease is present. The same power that built up the body is continually renewing every part, and furnishes all the secretions. How they effect all this is to us a mystery. We must, therefore, be content with observing the operation of diseases as they present themselves to our notice, and with noting the consequence to which they give rise, in order that we may be advised of their tendencies, and regulate our remedial measures to ameliorate them.

The practical study of disease is to be conducted in the stable. There alone can the book of nature be consulted; clinical observation, as this practical study is called, can not be too much insisted on; through it we learn the changes that take place during life, and the account thus began, is after death completed by an examination into alteration.

In this manner we obtain a knowledge, first of the signs by which the presence of the disease is indicated; second into its history; third into its causes; fourth, we watch its course; fifth, we note its termination. The signs or symptoms of disease are the circumstances de-

noting its existence. We collect them from observation. All symptoms are referable to two general heads, to alteration, either in the structure of the part affected, or in its functions. In a part whose situation in the body is superficial, all physical changes are readily noted; such as swelling or shrinking of the part; hardness or softness; warmth or coldness; change of color, &c. But when it is a deep seated part that is ailing, we no longer avail ourselves of this class of symptoms, and therefore we have recourse to those which spring from deranged function.

The earliest symptoms of disease in the horse are in a general way loathing his food. Being called to the animal we inquire into his spirits, and are told that he has lost much of his usual liveliness: there is a depressed countenance, and drooping of the eye. We feel his pulse and find it beating with increased celerity, the body has lost its natural warmth, the coat stares, legs cold; with such symptoms, we may rest assured that disease has commenced, but the precise nature of the disorder it is commonly not in our power to determine. It becomes our duty however to act, and to do so without delay to the best of our judgment.

The state of the pulse is highly important in almost all diseases; it gives to the fingers when applied certain definite sensations by which the state of the general system may to a certain extent be known. 1st, the hardness of the artery; 2d, its fullness; 3d, its suddenness or abruptness; 4th, the quickness of each beat; 5th, their rapidity or frequency; 6th, their variableness; 7th, their intermittent quality.

The hardness or resistance or incompressibility of the pulse, indicates great force of heart, driving on the blood so as to distend the coats of the arteries. This quality of pulse we depend upon as indicating strength of the system, and requiring venesection; on the contrary, if it is easily compressible, the use of stimulii is generally necessary.

The suddenness or abruptness of the beat, indicates the use of debilitating plans, the quicker pulse or the short time in which each contraction of the heart is performed, is found both in weak and strong states of the system. In the last moments of life the pulse is almost always quick, and in the higher states of excitement and the strongest inflammatory diseases, but the difference of the quantity or mass of blood sent into the arteries determines the comparative strength of the system in these cases.

Rapidity of the pulse occurs in all excessively debilitated cases, or in those which are considered as dangerous.

The variableness of the pulse regards its change of a longer or shorter duration. This state occurs when the system has begun to be weakened after an attack of violent disease.

An intermittent pulse shows some defect in the heart.

All these states of the pulse show the degree of power of the heart, and very generally of the whole system, as the healthy state of the body mainly depends upon the transmission through all its parts of a certain quantity of blood with a certain force and quickness.

The state of the respiration, the heaving of the flanks, is very important in diseases of the horse. There are few diseases in which the respiration remains undisturbed; in some it forms a primary and leading symptom.

Pain is a symptom of most diseases—one that originates in impression upon tho nerves distributed over the body.

But speechless as the horse is, it points out the seat of the disease with a sagacity hardly to be credited by persons who are strangers to its habits. For example, the drooping eye in several chronic disorders; the looking back at the flanks in lung fever; the vividness of the glance in the colic, together with the frenzied roll in delirium, are so many examples not to be misunderstood by the practitioner.

Symptoms in fever are rigorously followed by increased heat of skin, quick pulse, languor and lassitude. The essential character of fever is not characterized by any one, but depends upon the co-existence of many symptoms. The exciting causes of fever, whatever it may be, produces an irregular action in the system of nutrition, which is soon conveyed to the rest of the system, owing to the extensive sympathy which exists between every part of the body; and it is probable that all those local inflammations and congestions, are the consequence rather than the cause of this disordered condition of the system.—*Field Notes.*

Choice of Animals for Fattening.

Mr. Hedley contributes the following valuable hints on fattening cattle to the Newcastle Club, and which we find published in the *Agricultural Gazette*, England. He says:

"In my close identification with fat cattle for several years, I have always found that the best animals have the most massive heads, most capacious chests, and the strongest spines. I have, therefore, evolved a few rules to go by in the purchase of lean ones, and scarcely with one exception I have found them to be applicable. The *head* of any of our bovine races ought to have the first consideration; this is the true index to the vital acumen, and even bodily construction, and will be found to foreshadow all good or bad that may be accomplished. Thus an animal possessed of a broad, full, spacious skull, with strong, evenly-bent, deflective horns, will be found to have a thick neck at the base, wide thorax, and strong, nervous system; while one with long, narrow, contracted skull, and puny, abruptly-bent horns, will be characterized by weakness,

wildness, and slowness to fatten. A small, dull, sunken eye betokens hardness of touch and inaptitude to fatten; and a bright, large, open, eye, *vice versa*. A staring, dark, fiery eye often accompanies a small forehead and hereditary wildness, and when combined with small, drooping horns, and a chin with no loose skin hanging from it, is a very despicable animal indeed, weak in constitution, predisposed to lung disease, and sterile in fattening propensities. Animals with weakly formed heads, have always small loins, and the width of these parts will always be found in an exact ratio with the strength of the head. The nose, instead of being long and fine, as Virgil, Aristotle, and several other naturalists recommend it, ought, in my opinion, to be thick, strong, and near the ear as possible, if only in proportion to the size of the frame. Thickness of nose and thickness of chest are often twins, and so are thin, meager, irregular noses and consumption. Small, snipy noses oft sniff the air into frames of small capacities, and are joined to mouths that can crop but very small morsels at a time. These observations I have found to be applicable to any of the kinds of cattle shown at Newcastle market. But besides the shapes of animals, the age and class must always have especial consideration, and be adapted according to food and situation; otherwise the realization of remunerative profits will be uncertain."—*Maine Farmer.*

Pure Water for Stock.

A good draught of *good* water, is probably, as refreshing to beasts as it is to people. But in the month of August, nearly all domestic animals suffer far more than we imagine, for want of good water. Sheep will thrive far better if they can have access to pure water. Teams will endure the heat far better if they can have a plenty of pure water; and if milch cows must drink stagnant water wherever they can find it, how is it possible for them to give their usual flow of *good* milk. It is impracticable for them to do it.

Some people allow water to stand in troughs, day after day, many times, and compel their animals to drink it all up. Did such people ever drink water from an old dirty slop pail, after it had been allowed to stand in the sunshine for two or three days? Let them try the experiment of drinking such water, and wait for the result; and then they will be prepared to express a correct opinion, whether or not such water is as good for stock, in the sultry days of August, as pure cold water would be.

Water troughs and water tanks should be cleaned frequently, during the hot days of August, and fresh water pumped into them several times during the day.

Milk cows require a vast quantity of pure water in hot weather, in order to produce their usual flow of good milk.—*Country Gentleman.*

Give your Horses Light and Air.

History informs us that a certain emperor loved a favorite horse so much that he had a golden manger made for him. This extravagance appears unpardonable in the estimation of many, now-a-days, and yet it is more pardonable than the opposite extreme—meanness in the treatment of the horse. In looking at the construction of a very large proportion of our horse-stables, I am sometimes led to think that the object of the builder must have been to see how widely he could depart from every principle of humanity and expediency—humanity in compelling a patient and faithful animal to remain penned up in a close, dark and filthy apartment—expediency in thus sacrificing not only the comfort, but the health, and consequently the usefulness and value of the animal.

Light is indispensable to the plant and to the man,—is it less to the horse? If it is, why? When the tyrants of the old countries sought to inflict their most fearful punishments, next to death, confinement in a dark cell was considered the most severe. Is it reasonable that the horse—whose native home is in the desert and wilderness, where there is nothing to obstruct the free light of heaven—is it reasonable, I ask, that he should not suffer from confinement in our generally dark and gloomy stables? Is it not a shame, in a land like ours, where glass enough for a moderate sized window can be had for fifty cents, that a valuable horse should be shut up day after day in a dark stall or stable? Let every horse owner's heart, if he has one, answer!

Is foul air wholesome for plants? Certainly not. Is it wholesome for men? Most emphatically, no! If not wholesome for plants or men, can it be for horses? The answer is as emphatically, *no!*

Why then are the majority of our stables constructed without the slightest regard to that most important feature, ventilation? In thousands of cases, an animal, than which none other loves the fresh air better, is doomed to confinement for days and nights at a time, in a stable, the atmosphere of which is so foul that a man would die in it. How many of the diseases to which our horses are subject, may be traced to this unpardonable error? I say unpardonable, for no man possessed of either common sense or common humanity would thus punish one of his best and most faithful friends—the horse.

A word in conclusion. Farmers! if you would have healthy, lively, serviceable horses, give them plenty of light. God will supply it, if you will only furnish the means whereby it can be made to reach your stables.

Look to the ventilation of your stables, if you would not have prematurely old and worn out horses. Depend upon it, plenty of light, and plenty of fresh air in your stables, will save you many a dollar in the course of a lifetime.—*Cor. Farmer and Gardener.*

THE POULTERER.

On the Keeping Properties of Eggs.

MR. BROWN: Having read occasionally some controversy in the *N. E. Farmer* concerning the keeping properties of productive eggs, or those containing a germ, compared with unproductive eggs, which are unimpregnated, I wish to communicate a few observations on the subject. Persons who have been accustomed to raising fowls, must have observed that, if there are several eggs left in the nest of a hen, after she has hatched her brood, in frequent instances, some of these remaining eggs, when broken, appear to be fresh and uninjured, while others are entirely rotten, or contain dead chickens. Now those eggs which have not been materially injured by the warmth of the hen's body during the period of incubation, are such as never contained a germ; and those which are rotten, are eggs that contained a germ that had perished. I have always, therefore, made it a practice to examine the eggs in the nest of a setting hen, after she has sat upon them five days, and take away all those which the process of incubation has not commenced. This is easily determined by holding the eggs against a strong light, which makes apparent the little net work of blood vessels forming within all the productive eggs, and reveals the clear transparency of the unproductive ones. By this means I save all the eggs which are not going to produce chickens, before they have been injured by the warmth of the hen; if I left them a longer time, those eggs which contained a perished germ, would soon become corrupted, though the eggs that never contained a germ would bear this temperature with impunity for several weeks.

But as the public is always better satisfied if an individual who makes a doubtful assertion, should establish it by the testimony of some high authority, as well as by his own experience, I have made an abstract of some remarks on this subject, contained in a work "On Domestic Fowls, &c.," by M. De Reaumur, the inventor of the French thermometer. In this abstract I shall use the language of the author, as translated, but shall considerably abridge the sum of his remarks.

The multiplication of chickens does not appear, says M. De Reaumur, to be a more important object than the preservation of eggs, since it is probable that hens contribute more to the actual supply of man's food by the latter, than the former. It is very easy to surmise that if all the eggs consumed in one year were put into the scale of a balance and weighed, and all the chickens, fowls and capons eaten in the same year were weighed likewise, the weight of the eggs would be superior to that of the flesh of the poultry. He thinks, in any case, however, that the preservation of eggs is a subject of great importance.

There is a method, he continues, for having eggs preserved a great while without corruption, which ought to obtain public attention. It is very remarkable that there should be among eggs laid by the same hens, some that remain sound and contract no ill taste whatever, though laid a great while before, and kept in a warm, dry air five or six times longer than what would be necessary to rot any other eggs, placed in the same circumstances. This is an observation which he had occasion to make a great many times, before he tried methods for causing chickens to be hatched in ovens. After eggs had been warmed for some days together in the hatching ovens, there were some that spread the most offensive smell in the place if they were broken, and were entirely rotten. There were others in the same place, which, when broken, not only had no ill smell, but which were very good to eat.—They differed from new-laid eggs only in having some of their moisture evaporated, but the yolk was an entire ball, like that of fresh eggs.

In some of the eggs that were corrupt enough to spread the most offensive smell, he found a chicken very well formed; in some of the same eggs he found only the remains of one, and in others he could not perceive the least vestiges of any. In this last case the germ had probably perished at an early date, and had become dissolved; but the uncorrupt eggs never contained a germ. The germ, at least a productive germ, is wanting in the eggs of hens that live without a cock; and those of hens that are not deprived of cocks are not all fruitful. Now, since the eggs that have germs in them are liable to corruption, he was led to think that those which keep sound a longer time, are the unfruitful ones. The experiments necessary to remove all doubt on this point were too plain not to be attempted.

He accordingly kept four hens without a cock in a large cage, where they had everything besides in plenty; they laid eggs there, the first of which were of course productive; but after these had all been laid, by experimenting upon those which were laid afterwards, he found that when placed in the hatching oven, no chicken was enfolded in them, and they did not contract any corruption. *Although they were in an air warm to the degree that causes chickens to be hatched, they remained sound there for above thirty days, and sometimes forty or fifty days together.*

Thirty or forty days in an air of the heat of a hen's body must be equivalent in its action upon the eggs, to a great many months of an air which has only the common temperature of our houses. He concluded, therefore, that eggs destitute of a germ might be kept a long time in an ordinary temperature without being spoiled. He then made further experiments of another character. He deposited some of these eggs laid by hens kept apart from cocks, in one of the coolest places in his house on the

ground floor, after having written upon each of them the date when it was laid. On the third day of January, he tried those which had been deposited there on the first of May, the preceding year; and found them in good condition. A great cavity had been made within them by evaporation. They were not in the least corrupt, though the yolk was slightly adhering to the shell. He had these eggs dressed in different ways, and none of those who eat them, had the least suspicion that they were eight months old.

In order, then, to have eggs that would keep fresh from spring to the middle, or even the end of winter, we need only to deprive hens of all communication with cocks. People, without knowing this, must have owed to this circumstance the occasional advantage of finding a smaller number of spoiled eggs among those they bought. Hens are not furnished in every farm with as many and as good cocks as would be necessary to render all their eggs fit to be set on; and the egg of such fowls, after being kept a long time, would contain a large proportion well preserved.

Reaumur quotes some experiments of other persons which were attended with similar results. I think, therefore, we have reason to believe that the eggs which are laid by hens kept entirely apart from the male bird, are not liable to corrupt, under ordinary circumstances, before the contents are almost entirely evaporated. Eggs, on the other hand, which contain a germ, will begin to corrupt immediately after the germ has perished; and the germ seldom retains its vitality more than seven or eight weeks, unless some extraordinary attention is paid to the eggs for their preservation. Indeed, I have no doubt that if a series of careful experiments were performed with the two different kinds of eggs, to ascertain their comparative keeping properties, it would prove that the unimpregnated eggs laid in the spring, would be found as good in January as other eggs laid at the same time, would be in September. But this is conjecture: the exact difference between their keeping properties can only be ascertained by further experiment.—*Cor. N. E. Farmer.*

Sound Talk about Poultry.

There is a volume of truth contained in the extract below, from a recently published work on poultry, by Mrs. Ferguson Blair; entitled "The Henwife." We commend it to the attention of our poultry-loving friends:

"The best guide is nature, and we should always follow her as closely as possible in the treatment of our stock. Fowls are almost grazing animals, and pick up grass, or any green food in quantities. If, therefore, you cannot give them a complete liberty, and this is impossible where large numbers and several varieties are kept, you should at all events allow them a daily run in a grass park. One hour's liberty is sufficient to keep them in health, and their enjoyment of this boon is so great, that, even were there no other reason, that should be sufficient inducement for you to give them their little bit of happiness, even at the expense of trouble to yourself. It is astonishing how soon fowls accommodate themselves to the regulations of the establishment. A day or two suffices to make them acquiesce in all our wishes, and enables them to recognize without apparent difficulty their respective yards. Fowls seem to understand the value of their hour's play, and lose no time, the trap once opened, in availing themselves of it; they rush to the grass and never cease picking it until driven home. Great care must be taken that one set is put in before another is let out; this demands hourly attention, as by one moment's carelessness in allowing breeds to mix, hopes, for a whole season may be destroyed. If there are several yards of the same breed, these, to save time, may be allowed to enjoy each other's society during their run, as a *faux pas* in their case, though not advisable, need not be fatal—but *never* let out different varieties together. One single *mesalliance* will ruin the purity of the breed. *At no season* of the year should hens be allowed to associate with the male bird of a different variety, and if *super-eminent* excellence is desired, not even with an inferior one of the same. While the fowls are enjoying their grass run, their yards may be dug over. Twice a week is not too often for this operation. Occasionally a little of the soil may be pared off, and fresh sand strewed in its place. At all times, perfect cleanliness in yards and houses, should greet the eye of the lady visitor—it is *the* grand requisite. At the risk of appearing didactic, I must insist upon a *sine qua non* in a poultry establishment, great or small, be it that of the 'laird,' or that of his 'tenant.' I do not say with some writers, 'If the floor of the fowl house be cleansed every morning, so much the better,' but I say, 'It *must* be done,' and scrupulously so, too. If the floor is as hard as it ought to be, a birch broom is the best implement that can be used for this purpose. The supply of water must be copious and of the purest description, and the dust-bath always provided with ashes for the use of the fowls. They love to roll themselves in this, scattering the contents over their feathers, to the effectual discomfort and dislodgement of all parasites. A heap of lime rubbish, or old mortar, should be placed in a corner in each yard—poultry are fond of it, and it is conducive to their health. Once a year the interior of the houses and nests should be limewashed, and the floor saturated with the same mixture; this keeps all perfectly pure and free from taint. It is good during warm weather, occasionally, to sprinkle water from a watering-can over the perch and its vicinity, scattering a little sul-

place over the wetted parts. This ought to, and in a great measure does, prevent the appearance of any obnoxious animalculæ, which too often, even in well-regulated establishments, make their way good, to the torment of the occupants and their attendants. Depend upon it, the more we attend to the comfort of our domestic animals, the more they will repay our care."

THE BEE KEEPER.

Bee-Keeper's Calendar for September.

This is often a very busy month with bees. The Fall flowers come into blossom, and in some seasons, colonies which have hitherto amassed but little honey, become heavy, and even yield a surplus to their owner. Bees are quite reluctant to work in boxes, so late in the season, even if supplies are very abundant; but if empty combs are inserted in the place of full ones removed, they will fill them with astonishing celerity. These full combs may afterwards be returned, if the bees have not a sufficient supply without them.

If no Fall supplies abound, and any stocks are too light to winter with safety, then, in the Northern States, the latter part of this month is the proper time for feeding them. I have already stated that it is impossible to tell how much food a colony will require, to carry it safely through the Winter; it will be found, however, very unsafe to trust to a bare supply, for even if there is food enough, it may not always be readily accessible to the bees.—Great caution will still be necessary to guard against robbing; but if there are no feeble, queenless, or impoverished stocks, the bees, unless tempted by improper management, will seldom rob each other.—LANGSTROTH.

ANT RIDDANCE.—We have made a very important and cheap discovery to keep ants from bees. Several years since the little red ants were very numerous in our cupboard, and we put stone coal against the end of the house opposite the cupboard, and it banished them all. We concluded it was the effect of the copperas in the coal. This spring the black ant began to annoy our bees, and we procured copperas out of the coal bank and put it around the bench legs, cleaned all the ants off of the bench, and there has not been one about the hives or bench since.—*Cor. Bee Journal.*

Comb Guides.

I respectfully beg leave to say a few words to my beekeeping friends, through the *American Bee Journal*, in regard to comb guides, as that is a subject of vital importance to every one who attempts to keep bees on the more scientific principles of the present age.

And also being myself a zealous advocate of the movable comb class of bee-hives, I have been greatly gratified and pleased with the articles brought out already by our valuable "Journal" on the subject of comb guides.

I have used for three seasons, strips of comb stuck on the upper or top piece of the frame as a comb guide, and I am so highly pleased with the plan that I cannot refrain from giving my experience to others whom it may concern, as I believe that articles from practical men, in the cultivation of bees, is the way in which the science of apiarian pursuits will be most speedily advanced, bringing beekeeping to a more firm basis than it has heretofore occupied in our country; for I have full confidence in the inventive genius of our American citizens.

I also believe that if our energies are rightly directed that ere many years this country will stand out as prominent in beekeeping as she does in many other things.

Our advance already in bee hives reminds me strongly of the language of our late Commissioner of Patents, in regard to inventions, that "No sooner are the American people informed that a certain improvement in anything is wanted, than some man steps forward with the very thing needed."

But, to the subject we started on. The way I proceed is this: take some pan or skillet, and melt in it rosin and beeswax in the proportions of two parts of rosin, and one part of beeswax. Your vessel ought to be eight or ten inches wide, to give room for slipping in the comb.

Then select fine meshed brood comb, having ready a sharp knife; oil the blade of the knife, so that it will pass through the comb without clinging to it, first having the comb at the proper temperature, that it will not break. You must also see that you have not your comb too warm, or it will be easily mangled. When things are all right, your knife will slip through the comb very perfectly, leaving the strips straight and in good order. Your strips ought to be about three-fourths of an inch wide. Have the top piece of your frames flat; then slip the strips of comb in your melted wax, and set them straight on the frames, and they will stick tight almost as soon as they touch, so that you can set each frame away as fast as it is fixed.

When you have things all in a state of readiness, you can fix a set of frames in a few minutes, and then you have, I think, the best comb guide that can be used almost, for several reasons. In the first place, you have given the bees a start of the right kind of fine mesh-

ed comb, worker-brood-comb; again, you have a comb on or in each frame, as straight as a rule, which is a very desirable thing.

Then the animal heat of the hive is not absorbed or hindered by partitions of wood or metal between the combs, which new natural swarms dislike very much; and you economise the use of the old or waste combs about your bee yard.

I used this method of comb guides last season in about fifty hives, and I do not think that I had one crooked comb in the lot.

I am certain that if that kind of comb guide is properly put on and used, that you will attain to a very high perfection in straight combs—in fact, almost all that a person could wish or desire.—*Cor. Bee Journal.*

[The Editor *pro tem* of the FARMER has this season tried the use of these strips of comb, and his success is such that he recommends them as the easiest guide to make, while at the same time it answers the same purpose of securing straight combs.]

Bee Pasturage.

Those wishing to improve their bee pasturage are advised to plant maple, locust, chestnut, and linden trees, and to encourage others to do so. In setting out ornamental trees, it is surely worthy one's attention to have regard to their honey-producing power; and to select, with this end in view, those blooming at different times, rather than all of one kind, or those blooming at the same time. I should like to know the comparative value of these trees for producing honey, and also which varieties of these mentioned are the best.

For timber, the yellow locust is the most valuable. It is extensively planted on the western prairies, where it grows very rapidly, and is chiefly used for railroad sleepers. In Southern Ohio, bees, some years, gather a large portion of their surplus honey from the locust. Their industry during the yield from the locust is surprising. Where the tree grows in great numbers, they almost abandon all other sources of supply.

Twenty years ago, an old farmer in New Jersey raised from the seed about 20,000 yellow locust trees, which, when tall enough not to be injured by cattle, he set out on the roadside, along his fences, and also thinned out his woodland and planted a locust wherever there there was a chance for one to thrive. The majority are now worth $1 each for posts.

Some years since, a farmer in the west set out a very extensive peach orchard for firewood—the tree being of rapid growth in rich soil. When they began to bear, he marked those that yielded good fruit, saved them, and cut the others as needed. In this way he originated some fine fruit. He remarked that his bees gathered a good deal from blemished fruit, of which there was a large quantity, as he only picked for the use of his family. The same has been noticed in abundant peach years elsewhere; but near a good market, the crop is too carefully gathered for bees to obtain much from this source. "The nauseous Ailanthus" blooms very late. The white clover, in my vicinity, suffered from drouth this year before the Ailanthus blossomed, and bees worked with unusual activity upon it. I observed this upon an avenue of trees over one mile in length. I have been informed that the timber is extensively used in China (where it attains a large size) in ship building, and the leaves of the young trees for feeding a worm which produces an inferior silk, worn there by the lower classes. The chief need, in closely cultivated districts, is something to fill the gap between white clover and buckwheat.—*Bee Jour.*

Apiary in September.

Immediately after the failure of honey in the flowers—which will be in September in most places, look out and remove all colonies too feeble to defend themselves. They are quite sure to be robbed by stronger ones, which thus get a bad habit, and will be induced to attack others. Late swarms which are strong enough to winter, but lack honey, should not be fed this month—as many recommend—unless they can be fed sufficiently to construct comb in which to store it, and rear considerable brood. Next month, the brood will mature, and leave the cells, and give room for several pounds of honey..... When two or three feeble colonies stand near together, and contain bees enough for a good colony, they may be united for a winter stock, if fed properly. To prevent quarreling, sprinkle with sugar water flavored with a few drops of peppermint, or other essence. Condemned colonies will have a little more honey if taken now, than if later; yet when all the brood is matured and out of the way, it will be nicer. Stocks in which much foul brood has appeared, should be removed at once. It will not do to wait for such to mature all their brood, as they continue to rear *that* till cold weather, and in the mean time may get robbed, which would infect other hives with the disease. When cells of honey and dead brood are mixed together in the same comb, it is best disposed of by burying—the honey is unfit for use, very little wax can be made from it, and the bees should not be allowed to take a particle. Stocks of any age may be attacked, and hence all should be examined where the disease is prevalent. When a stock is diseased just enough to condemn it, yet not sufficiently to prevent it from being wintered, it may be kept, but some hive containing combs and a small quantity of honey, should be provided to which to transfer in the Spring. Honey taken from such hives, when

it can be cut out free from the mixture of brood, is suitable for the table; it may be eaten with no bad effects. The inferior pieces may be strained. By scalding thoroughly, and skimming, it may be fed to the bees with safety.—QUINBY.

Introducing Italian Queens—A New Method.

Editors Co. Gent.: Last season I first attempted to introduce the Italian variety of bees in my apiary, but the method of doing it was new to me, and like some others, failed in the attempt. This season I tried it again and succeeded after the experience of last year. I I obtained my queen from Mr. Quinby. She was of a beautiful color. I have raised a few queens from her which I introduced without a cage—a new method to me, and compartively easy. The method is as follows: After the swarm had been deprived of the native queen and cells four or five days, take a cup containing a small amount of honey, and put the queen in, being sure you get her completely covered with honey as quick as possible, without injuring her; then with a small spoon carefully put her in the top hole of the hive, and by the time she is licked off she is all right. The few trials I have given this method have not failed in a single instance, but as I have not thoroughly tested it, I would advise none but our large Italian bee raisers to try it. During this month there will be more queens introduced than in any of the past ones; hence it will be necessary for our bee-keepers to communicate as quick as possible, so as to give our amateurs a chance.—L. A. ASPINWALL.

REMOVING HONEY FROM HIVES.—Two years ago we tried the following experiment on a hive of bees, from which it was desired to take the honey. Having bored a few small holes near the top of the hive, it was then inverted, and an empty box of the same size placed over it; both were then lifted into an empty tub, into which water was slowly poured, allowing time for the liquid to penetrate through the holes, but not too fast, in order to avoid drowning the bees. As the water rose amongst the combs the bees found their way up into the empty box, which was then lifted off and placed on the bee-stand. The box, full of water and combs, was then lifted gradually out of the tub, the water escaping by the holes through which it entered. The whole operation occupied but a few minutes, and scarcely any bees were lost. The short time necessarily prevented the honey from becoming dissolved, and, as the greater number of cells are sealed, up, there is really little danger of such loss being sustained. After the water was drawn off it was found to be only slightly sweet; the combs soon became dry, and the honey was in no way injured.

THE HORTICULTURIST.

A. G. HANFORD, : : CORRESPONDING EDITOR.

Ornamental Shrubs.—No. 2.

SWEET SCENTED SHRUB—(*Calycoanthus*).—Several species. *Floridus* is most common and perhaps the most desirable. The wood is fragrant, foliage rich, flowers single, of a chocolate color with a peculiar agreeable spicy odor.

WHITE FRINGE—(*Chinanthus*).—A fine shrub with large, broad Magnolia-like foliage and delicate greenish white flowers resembling cut paper.

PURPLE FRINGE OR SMOKE TREE—(*Rus Cotinus*).—A very neat pretty shrub of large size, covered in summer with a curious purple inflorescence resembling fringe or hair. This and the White Fringe should have the shelter of other shrubbery to endure the winter in Wisconsin.

DOGWOOD; RED BRANCHED—(*Cornus Sanguinæ*).—A large spreading shrub with willow-like shoots and white flowers; very conspicuous and ornamental in winter when the bark is blood red. *Cornus Variegata* is desirable for its variegated foliage.

FLOWERING CURRANT—*Yellow*—(*Aureo.*)—Large spreading shrub with neat foliage and abundant yellow flowers with strong cinnamon perfume. *The Crimson* and *Double Crimson* are not hardy. *Gordons*, (*Ribes Gordoni*) is a hybrid between the crimson flowering and the yellow; it is quite hardy, but should be slightly protected in Wis. to insure a good bloom.

LILAC.—An old fashioned shrub with handsome foliage and a profusion of fragrant showy flowers, in early spring, indispensible to every garden. May be grown in clumps or trained as a small tree. Makes a fine ornamental hedge or screen. Beside the common purple and white, there are several newer varieties which are desirable. *Charles the 10th* is a strong growing variety with large leaves and reddish purple flowers. *The Persian* has slender branches and small leaves, there is a purple and a white flowering variety. *Josikea* is a very distinct species with dark glossy leaves,

flowers in long open spikes of a reddish purple, Blooms after other varieties. *Double purple* has a double row of petals.

STRAWBERRY TREE OR BURNING BUSH—(*Euonymous*).—A very ornamental large shrub or small tree, covered with scarlet fruit in Autumn.

SNOW BALL—(*Viburnum Opulus*).—A large and beautiful shrub with showy clusters of white flowers like snow balls. An old favorite, thriving everywhere. *High Bush Cranberry*, (*V. Oxycocus*) resembles the preceding, white flowers in early spring, followed by showy clusters of scarlet fruit of a pleasant acid taste resembling the Cranberry. *Early White Lantana leaved*, (*V. Lantanoides*). Has soft hoary leaves and large clusters of white flowers in May, retains its foliage very late.

CHINESE GOLDEN BELL—(*Forsythia Viridissima*).—A fine shrub with long dark green shoots and very deep green foliage, producing an abundance of bright yellow flowers very early in spring. To insure a good bloom in Wisconsin, it must be laid down at approach of winter and covered with soil or dry leaves.

PRIVET.—A very ornamental plant with neat foliage and pretty spikes of white flowers, succeeded by bunches of black berries; it is almost an evergreen, thrives in all soils, makes a fine ornamental hedge, will bear shearing to any extent.

ST. PETER'S WORT OR SNOW BERRY.—A neat shrub with small delicate pink flowers and large white wax-like berries that hang on through winter.

ALTHEA—ROSE OF SHARON.—Handsome, free-growing and free-blooming shrubs, desirable for blooming in the autumn months; flowers are white and various shades of pink, purple and lilac,—both single and double. The Althea will not endure the cold of a Wisconsin winter without very thorough protection, they may be grown in boxes or tubs and removed to the cellar at approach of winter, or taken up and holed in in the cellar to be replanted in the spring. The many good qualities of this shrub will repay this care and trouble. A. G. HANFORD.

COLUMBUS, Ohio, August, 1862.

The Lawton Blackberry.

MR. EDITOR: In the May No. of the FARMER is an article on the "Value of the Lawton Blackberry," from O. S. Willey, which I believe very much misrepresents its value. I have found, by experience, that there is little difficulty in making it productive. The Lawton is a good fruit, but the trouble with some is, it don't pay. Now the Lawton is a rampant grower, requires good cultivation, and is, if rightly managed, just as certain a crop as the currant. The ground should be worked from twelve to twenty inches deep, and made good by manure. The canes should be pinched during their growth so as to confine them within proper limits and make a tree or bush well branched, and finally, the whole ground should be well mulched.—Not a little bit of mulching around each bush, but all over the ground. The Lawton is rather troublesome in a small lot, but should have plenty of room; better adapted to Farmers' grounds than small gardens. The way to cultivate is as follows: A piece of ground, say twenty feet wide and as long as you wish, commence on the sides and plough until it is all turned over, then drag it thoroughly. Then plough again as at first and drag again, and so keep working until your centre or dead furrow is as deep as you can conveniently make it. Then plough all back again to a level; plant your canes in the centre and then cover it all with good coarse manure or half rotted straw, from twelve to eighteen inches deep. If you wish to do the work with a spade, the deeper you work the ground, the more and better fruit. The Blackberry makes better wine than any grape raised in this latitude. The fruit is a specific in summer or bowel complaints, both for children and adults. I find the Lawton perfectly hardy as the wild black raspberry or thimbleberry, and with proper cultivation they are always productive. You can pile straw around them if you please in the fall for protection and let it remain for a mulch the next summer. The only reason people do not succeed is, they neglect thorough cultivation. The ground must not get dry, if it does, your fruit will be dry also. I have learned this by experience, my own bushes look well and are loaded with fruit. E. A. ROBBY.

BURLINGTON, Wis., Aug. 4th, 1862.

Care and Taste in Planting.

A great deal of care and some taste is necessary in planting grounds, or our choicest treasures become evils, and those things which give much of grace and beauty to our grounds, prove a great injury. Persons are apt to have a special passion for particular classes of trees —some are fond of evergreens, and their grounds have a sombre, formal appearance, from the large number of this class of trees planted, while others are delighted with the weeping trees and obtain every variety possible, and give to their place a melancholy aspect far from agreeable. These trees should be used with caution. Mr. Barry gives the following excellent advice on this subject, which we commend to all who are planting ornamental grounds:

"There is something so attractive and so graceful in the character of drooping trees, that they arrest the attention of persons who would scarcely bestow a glance upon the noblest and rarest trees of the ordinary upright habits of growth which prevail among the mass of forest trees. A Weeping Willow, common though it be, never fails to elicit admiration. In the hands of a skillful, judicious planter, no other trees are more effective in giving variety, character, and expression, to a landscape; but they must always be used sparingly, and with the exercise of good taste and a great deal of foresight. We have known persons so captivated with the elegance of the Weeping Willow, as to plant half a dozen immediately around their dwellings, stamping them at once with the character of mausoleums, more than that of the habitations of living beings.

It is equally in bad taste to plant largely of trees in which any particular character prevails to a striking degree. At certain points on the Hudson, the tapering Arbor Vitæ is so thickly planted in some grounds that one can see nothing else. These, the stiffest, most artificial-looking, of all other trees, should be planted with the greatest caution. While two or three might produce a fine effect, entire groves or masses of them become monotonous or disgusting.

It is quite obvious that weeping trees, to produce any effect, must be pretty well isolated; for their streaming side branches are the source of their peculiar grace and elegance — This points out the jutting edges of groups of trees, and the open lawn, as their appropriate situation. The Willows have a particularly fine effect on the margins of streams, ponds or other bodies of water. Those with stronger branches, such as the ash, elm, &c., are well adapted to farming arbors, and are much employed for this purpose. All the drooping trees are considered appropriate ornaments to cemeteries; the mournful expression which their drooping habit conveys, certainly renders them fitting objects for this purpose."—*Rural New Yorker.*

Re-Clothing Bare Spots upon Lawns.

Mr. Editor:—There are many complaints in the spring about lawns becoming overrun with moss, and the ground about the stems of trees getting bare. When such is the case with me, I have the moss raked up with sharp-toothed rakes, and scratch the ground well, mix grass seed with a good quantity of mould, and sow it thickly over the bare spots. In a short time it springs up and keeps down moss for several years; a little lime or soot sown over it in fall prevents the growth of moss; and kills worms in the soil.

A good top dressing of rotted manure in fall is of great advantage; or super-phosphate in spring is equally good. The grass should not be allowed to get very long in spring for want of cutting, but during the heat of summer it should not be too often cut nor too closely cut, as by that the roots are too much exposed; but in cool, wet seasons, it should be oftener cut. When the ground under trees gets bare, I stir the surface with a rake with sharp teeth; then scatter some finely broken mould over the place and sow it thickly with grass seeds, (a good deal of white clover among it.) It soon becomes green, and keeps so all summer. About the first of April is the best time to sow the grass seeds, but even on to June will do. I had this ready to send you for this month's number, but neglected to send it, but better late than never, if it should be the means of reminding any of your numerous readers to do what in the hurry in spring they may have forgotten.—*Cor. Farmer and Gardener.*

Preserving Dahlia Tubers.—A correspondent of the "Journal of Horticulture and Cottage Gardener," writes as follows: "May I be permitted to offer a simple suggestion relative to the preservation of Dahlia roots during winter? Though carefully dried before storing away in the autumn, I used continually to lose them by the rotting of the crown, till at length the idea one day occurred to me that the mischief was occasioned through the decay of the long stalk left attached to the tubers: this becoming partially charged with fluid kept the crown constantly wet. My remedy has been not to leave more than four inches of stalk; from this to scrape the whole of the outer covering or bark, and at the base to make a small opening which permits any watery deposit to escape. The result has been that I have preserved the whole of my tubers, while experienced gardeners around me have complained of loss, notwithstanding that every precaution from damp or frost had been taken."

Erata.—*Mr. Editor:* In the remarks on the Fall Stripe Apple, on page 300, August No., I report Mr. B., of Lodi, to say "Not Extra;" whereas it should be "*No. 1 Extra,*" which is his own language. Yours, J. C. P.

American Seedling Gooseberry.

An American sort, similar to Houghton, of the east, but more upright. Has been termed by fruit growers of Illinois, an European sort, and labelled "Pale Red." The "Ohio Seedling" of Cincinnati, probably is the same variety. A very rapid, vigorous grower—an abundant bearer—hardy; never mildewing; small to full medium in size, pale red, pleasant flavor; valuable for cooking, and easily kept by bottling.

Plants are easily grown from cuttings, layers or division of roots. There may be a few English sorts not subject here to mildew, and so succeed in this climate; but thus far not more than one in a thousand has done so, and the propagation of most, or all of them, have been abandoned by American growers; and well they may be, when we have such sorts as the above—Houghton's Seedling and Downing's—originated by Chas. Downing, of N. Y.—not fully tested here, but spoken highly of where known.

Another of Emery & Co.'s engravings, which graced their wide awake paper not long since. O. S. WILLEY.

MADISON, WIS.

Grape Growers' Maxims.

We find a few good items under the above heading in the *N. J. Herald*. They are from the pen of our frequent and valued contributor, A. S. Fuller, and are well worth remembering. The only point on which we do not agree is the kind of manure recommended. It is certainly true that well decomposed manure is better than long, undecomposed manure, but our experience has convinced us that whatever general manuring the soil may have received, both wood and fruit are materially improved by the free use of phosphates and potash as supplied by wood ashes.—*Working Farmer*.

1. Prepare ground in the Fall, plant in the Spring.
2. Give the vine plenty of manure, old and well decomposed; for fresh manure excites growth, but does not mature it.
3. Luxuriant growth does not always insure fruit.
4. Dig deep, but plant shallow.
5. Young vines produce beautiful fruit, but old vines produce the richest.
6. Prune in the Autumn to promote growth, but in the Spring to insure fruitfulness.
7. Plant your vines before you put up trellises.
8. Vines, like soldiers, should have good arms.
9. Prune spurs to one well developed bud, for the nearer the old wood the higher flavored the fruit.

10. Those who prune long must soon climb.

11. Vine leaves love the sun; the fruit, the shade.

12. Every leaf has a bud at its base, and either a bunch of fruit or a tendril opposite to it.

13. A tendril is an abortive fruit bunch—a bunch of fruit a productive tendril.

14. A bunch of grapes without a healthy leaf opposite, is like a ship at sea without a rudder—it can't come to port.

15. Laterals* are like some politicians; if not often checked they are the worst of thieves.

16. Good grapes are like gold; no one has enough.

17. The earliest grape will keep the longest; for that which is fully matured is easily preserved.

18. Grape eaters are long livers.

19. He who buys the new and untried varieties should remember that the seller's maxim is *Caveat emptor.*—Let the buyer look out for himself.

Horticulture in Japan.

Mr. Veitch, Jr., son of the eminent London nurseryman, is now in Japan, investigating the condition and method of horticulture in that country, with a view to the selection of novelties, &c. In a recent letter to the *Gardener's Chronicle*, he states that the Japanese possess great horticultural skill, and far exceed the Chinese in this respect. The Japanese nurseries are very numerous and extensive, presenting many varieties of trees, shrubs and flowers. He says: "Chrysanthemums are especial favorites with the Japanese, and at this season of the year are everywhere in full bloom, scarcely a window in the town (Yeddo) but has a plant or two, and each establishment devotes a piece of ground to their culture.—They are grown to great perfection, and many varieties, exclusive of the ordinary large flowering ones, and Pompones, are met with. The fan shape is the favorite mode of training them, the finest specimens averaging 3½ to 4 feet in hight, and often having from 25 to 30 expanded trusses of flowers on them. The great characteristic mark of a Japanese nursery is its peculiar neatness, everything clean and in order, not a weed or a pot out of place to be seen." Their mode of pot culture seems to consist:—1st, In confining the roots of their plants in as small pots as possible; 2d, in using a light open soil, generally the same for all classes of plants; 3d, supply them with unlimited quantities of manure water. Their success in dwarfing trees is mainly to be attributed to the last named cause. The soil acts merely as a means of protecting the roots from the sun and air. It is the manure-water which nourishes the plant and keeps it in a growing state.

Mr. Veitch found a new tree (fern) in the garden of the great temple of Osakusa, which thrives well in the open ground, and will, he thinks, prove hardy in England. Again he says: "The quantity and splendor of the timber trees in the neighborhood of Yeddo far exceed anything that can be described." Mr. Veitch took measurements, finding pines three feet from the ground, with a circumference of 10 feet; beech, 15 to 20 feet; spruce (very common), 10 to 12 feet; evergreen oak, 15 to 25 feet; gingko, 15 to 28 feet; cryptomeria (tens of thousands of them), 12 to 15 feet.

Exterior Signs of the Quality of Pears.

Pears, pyriform, uneven or gourd-shaped, with thick skin, sometimes wrinkled, of green color, with more or less russet, passing to golden yellow, and tinted more or less with carmine on the sun side: with skin entirely brown, russet or green bronze, or yet burnt earth of sienne color, (rich brown) light or pale green united or relieved and tinted with vermillion or shaded with sienne, are generally those which may be judged to be buttery, melting, and of the best quality.

Pears oviform, stem slender, long, with fine skin, shining, very finely and thickly studded with small brown dots, are usually melting fruits, acid, astringent, ripening very quickly, and finally of the second or third order, passable or bad.

Pears with thick skin, dark or raw green, shining, thickly dotted where the reddish brown is placed in patches on the side which is struck by the rays of the sun, passing or not to ochre yellow and red at the latter end of the season, indicate generally fruits capable of long preservation, and suited for cooking.

Observation has enabled us to state these facts, which have very few exceptions according to us.—J. De Liron D'Airolles, in *Revue Horticole.*

Two Valuable Hardy Apples.

Amid the desolation among those orchards planted on low and poorly drained lands, previous to the winters of '55 and '56, we find here and there a few specimens of those very hardy varieties, which fortunately went through unscathed, and remained as anchors, to the fast waning hopes of tree planters.

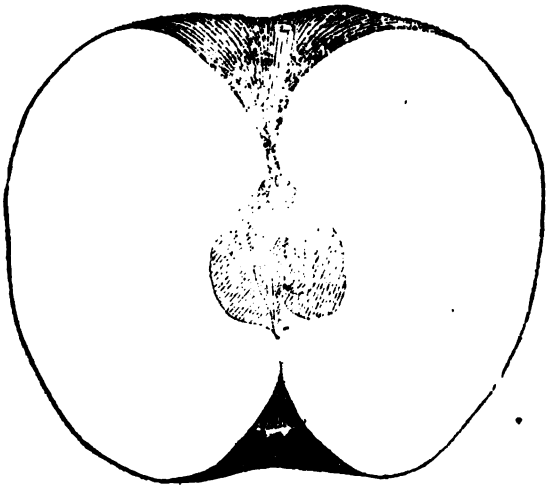
These trees stand as monuments of past labors; way marks to guide us in the direction of complete success.

In remembering this lesson we bring before

* Laterals are shoots which start from either side of the main bud, at the axil of every leaf; if they grow unchecked they destroy its vigor; if entirely removed, the bud itself shoots permaturely.

you a rough drawing of a variety which stands, sometimes singly, sometimes in pairs, or the full row; but always there, all and the original number that was first planted out, and perhaps the only survivors of the fifty or one hundred set.

This variety is only one of more than twenty old and new, that stand nearly equal in those combined qualities which render them "successful," "adapted" in their different seasons and localities:



FALL WINE SAP.—Tree, very vigorous, irregular grower; forming a beautiful orchard tree, with many pendulous branches; wood, a dark brown, with many greyish patches after two years old; leaves, large and broad, many of them remaining on the tree till mid-winter; very hardy and productive; fruit, medium size, round, conical, pale green, often bright blush on sunny side; stem, medium, cavity, wide, smooth, deep; calyx, closed; basin narrow; core, small, seeds large, flat; flesh, white, tender, juicy, mild, vinous, good. October to January.

WINTER WINE SAP—*Syn: Wine Sap of Elliot—Wine Sap of the West.*—Very vigorous, hardy, spreading grower; distinguished by its polished dark colored wood, and many short spurs which put out from the young vigorous wood; its leaves are much smaller than those of the Fall Wine Sap, and more sharply serated, shedding them fully on the approach of winter. Its outline resembles that variety, except being more conical and consequently basin more abrupt.

Successful in all soils, especially on the rich dry rolling prairies.

Fruit medium to small, conical, mostly bright red; flesh fine grained, tender, juicy, sub-acid. January to March. J. C. PLUMB.

MADISON, Wis.

Bastard or Barren Raspberry Bushes.

M. Hubbard, of Bennington, set out a plot of the American Black Cap Raspberry several years since, and they were thrifty and prolific, but they now send forth "bastard" suckers—slender stalks, that never blossom or bear. Is there any remedy short of rooting them out and setting new plants? What is the cause of the evil complained of?—Can it be prevented? How?—L. S., *Attica, N. Y.*, 1862.

Mr. Doolittle, after whom the Doolittle or Improved Black Cap is named, has given much attention to the culture of the fruit, and has fairly brought it before the public and the fruit growers as a market fruit. We have often obtained his opinions, and observed his practice, and may therefore be enable to enlighten our Attica correspondent.—Mr. Doolittle states that the American Black Raspberry, in its wild state, or as usually propagated, produces but two or three crops, and often but one, before it becomes barren, and that no extra cultivation or manure will prevent this. Many plants are almost entirely barren, producing but a few scattering, seedy, deformed berries the first year, and afterward nothing. The barren hills or plants he is enabled readily to detect from their appearance. The barren form of hill is indicated by the vast number of small canes, and from the fact that they are thornless, while the leaves are small and generally covered with yellow rust. The healthy or fruitful form of hill, is shown by a few large bearing canes.—The number and size, or bulky form of the thorns, furnish to an experienced eye a sure index of the yield and quality of fruit to be expected. An examination of any plot of Black Raspberries will show the barren form prevailing more or less, in hills two or three years old. Some hills will have part barren canes and part partially barren—that is, the canes may be quite large, but are almost or quite destitute of thorns. The way to avoid

barren plants, is to propagate only from those that are known to be fruitful, and always from young, vigorous plants. If a plant shows appearance of barrenness, remove it, and put in its place a plant with good strong canes and plenty of thorns.—*Rural New Yorker.*

Several of the Earliest Pears.

Amire Joannet, or Early Sugar Pear.—The earliest of pears, quite small, skin yellow with red dots, flesh white, very sweet, pleasant flavor, juicy at first, becoming dry and mealy when full ripe. Season before wheat harvest, or middle to last of July in Wisconsin.

Tree, a fine, vigorous, upright grower, an early bearer and very productive.

This variety is said to do well as a dwarf, but such is not our experience; we advise to grow it only on the pear stock.—Next in season is the

Madeline.—This has long been regarded as the *best of the very early pears*, medium size, yellowish green, flesh white, juicy and melting, with an agreeable, often, though not always sweet, and slightly perfumed flavor. Ripens in Wisconsin the last of July or first of August.

Tree, a very thrifty, upright grower and early bearer, both on pear and quince, grown as a dwarf it should be securely staked, as the union of this variety and the quince stock does not seem to be very strong, and after a few years when in bearing it is liable to break off.—Ripening with this is the little

Muscat Robert.—A tender, juicy, sweet pear; color, bright yellow, soon after ripe it becomes dry and mealy.

Tree, hardy, vigorous, productive on both pear and quince.—A few days later we have the

Doyenne d'Ete, or Summer Doyenne.—A beautiful and excellent little pear, yellow with bright red cheek, flesh white, melting, juicy, sweet perfumed flavor.

Tree, vigorous, upright grower, is hardy, bears young and is very productive on both pear and quince.

Osband's Summer.—Medium or small size, yellow, often with reddish brown cheek, sweet fine flavor; tree, fair grower on both pear and quince, and productive. Ripe early in August.

Dearborn's Seedling.—Medium or small size, skin smooth, pale yellow, with small specks, flesh white, fine grained, melting, sweet, sprightly, delicious flavor, always fair, one of the best.

A good grower on both pear and quince, bears young and abundantly. Middle to last of August. A. G. Hanford.

Columbus, Ohio, August, 1862.

Pegging down Roses.

I saw a method of training roses last year which I believe has not been noticed in your magazine, though I am pleased to say it is not often you are caught lagging in the rear of useful hints for your readers. This is neither more or less than simply pegging down roses so as to cover the whole surface of the soil in a bed, instead of training them up to stakes in the usual way. Strong forked branches of trees, cut so as to make pegs of them, are used, and the beds are beautiful in the extreme, if such beauty can be aptly termed extreme. The beds I saw had but one kind in each—one I remember was of Louis Phillippe, this was crimson; and another was Cels, nearly white. There were also some beds with Hybrid Perpetuals, which, though not making such a brilliant effect as the former kinds, were very pretty indeed, and they seemed to flower much more freely treated in this way than when grown as usually, upright. C. D.

[With regard to the free flowering properties of Hybrid Perpetuals noticed, as following this treatment, we are informed that this was attributed to the practice of cutting off the blooms as fast as they faded, though our correspondent is no doubt right in her surmise, that pegging down has some influence on their productiveness.]—*Gardener's Monthly.*

☞ A correspondent of the *Gardener's Chronicle* packs apples in shallow boxes, in dry bran. He finds it light, clean, elastic, and excellent for packing. Packing peaches, nectarines, apricots, and grapes to long distances, he wraps the fruit singly in tissue paper.—Grapes are best sent in paper bags, in single layers, and the bran to keep all firm.

☞ To smoke Aphides in the open air, take cotton cloth well sprinkled over with tobacco, make a compact roll, set on fire and blow the smoke upon the Aphides, pinning a newspaper round the plant if small, or setting a barrel over it, with one head out and a little hole in the top for a draft, if large.

MECHANICAL & COMMERCIAL.

Japanning and Varnishing.

Japanning is the art of covering bodies by grounds of opaque colors in varnish, which may be afterward decorated by printing or gilding, or left in a plain state.

All surfaces to be japanned must be perfectly clean. Paper should be stiff for japanning, such as *papier mache.*

The French prime all their japanned articles, the English do not. This priming is generally of common size. Articles that are thus primed, never endure as well as those that receive the japan coating on the first operaton. When they are used for some time they crack, and the coats of japan fly off in flakes. A solution of strong isinglass and honey, or sugar candy, makes a good japan varnish to cover water colors on gold grounds.

A pure white priming for japanning, for the cheap method, is made with parchment size and isinglass, laid on very thin and smooth.—It is the better of three coats, and when the last is dry, it is prepared to receive the painting or ornamental figures. Previous to the last coat, however, the work should be smoothly polished.

When wood or leather is to be japanned, and no priming used, the best plan is to lay on two or three coats of varnish made of seed lac and rosin, two ounces each, dissolved in alcohol and strained through a cloth. This varnish should be put on in a warm place and the work to be varnished should, if possible, be warm also, and all dampness should be avoided, to prevent the varnish from being chilled. When the work is prepared with the above composition and is dry, it is fit for the proper japan to be laid on. If the ground is not to be white, the best varnish now to be used is made of shellac. This is made in the proportions of the best shellac five ounces, steeped in a quart of alcohol and kept at a gentle heat for two or three days, and shaken frequently, after which the solution must be filtered through a flannel bag, and kept in a well corked bottle for use. This varnish for hard japanning on copper or tin will stand forever, unless fire or a hammer be used to burn or knock it off. The color to be used with shellac varnish may be any pigment to give the desired shade.

To form a hard perfect white ground is no easy matter, as the substances which are generally used to make the japan hard, have a tendency by a number of coats to become dull. One white ground is made by the following composition: White flake or lead ground up with a sixth of its weight of starch, then dried and mixed with the finest gum, ground up, in parts of one ounce gum to half an ounce of rectified turpentine, mixed and ground thoroughly together. This is to be laid on the article to be japanned, dried, and then varnished with five or six coats of the following: two ounces of the whitest seed lac to three ounces of gum anima reduced to a fine powder and dissolved in a quart of alcohol. This lac must be carefully picked. For a softer varnish than this, a little turpentine should be added, and less of the gum. A very good varnish, and not brittle, may be made by dissolving gum anima in nut oil, boiling it gently as the gum is added, and giving the oil as much gum as it will take up. Although this varnish is not brittle, it is liable to be indented with strokes, and it will not bear to be polished, but if well laid on, it will not need polishing afterward. It also takes some time to dry. Heat applied to all oils, however, darkens their color, and oil-varnishes for white grow very yellow if not exposed to a full clear light.

Heat for Tempering Tools.

In the manufacture of tools the greatest skill is required in obtaining the proper temperature or heat for tempering them. This will vary greatly with the various grades of steel or metal to be tempered, and also the degree of hardness required.

Between the extreme conditions of hard and soft steel there are many intermediate grades, the common index for which is the oxydation of the brightened surface, and it is quite sufficient for practice. These tints, and their respective approximate temperatures, are thus tabulated:

	deg.	
1. Very pale straw yellow	430	Tools for metal.
2. A shade of darker yellow	450	
3. Darker straw yellow	470	Tools for wood, and screw taps, etc.
4. Still darker straw yellow	490	
5. A brown yellow	500	Hatchets, chipping chisels, and other percussive tools, saws, etc.
6. A yellow, tinged slightly with purple	520	
7. Light purple	530	
8. Dark purple	550	Springs.
9. Dark blue	570	
10. Paler blue	590	Too soft for the above purposes.
11. Still paler blue	600	
12. Still paler blue, with a tinge of green	630	

The first tint arrives at about 430° F., but it is only seen by comparison with a piece of steel not heated: the tempering colors differ slightly with the various qualities of steel.

The heat for tempering being moderate, it is often supplied by the part of the tool not requiring to be hardened, and which is not therefore cooled in the water. The workman first hastily tries with a file whether the work is hard; he then partially brightens it at a few parts with a piece of grindstone or an emery stick, that he may be enabled to watch for the required color: which attained, the work is usually cooled in any convenient manner, lest the body of the tool should continue to supply heat. But when, on the contrary, the color does not otherwise appear, partial recurrence is had to the mode in which the work was heated, as the flame of the candle, or the surface of the clear fire applied, if possible, a lit-

tle below the part where the color is to be observed, that it may not be soiled by the smoke.

A very convenient and general manner of tempering small objects, is to heat to redness a few inches of the end of a flat bar of iron about two feet long; it is laid across the anvil, or fixed by its cold extremity in the vice; and the work is placed on that part of its surface which is found by trial to be of the suitable temperature, by gradually sliding the work toward the heated extremity. In this manner many tools may be tempered at once, those at the hot part being pushed off into a vessel of water or oil, as they severally show the required color; but it requires dexterity and quickness in thus managing many pieces.

Vessels containing oil or fusible alloys, carefully heated to the required temperatnres, have also been used, and I shall have to describe a method called "*blazing off*," resorted to for many articles, such as springs and saws, by heating them over the naked fire until the oil, wax, or composition in which they have been hardened ignites; this can only occur when they respectively reach their boiling temperatures, and are also evaporated in the gaseous form.—*Journal of Am. Patent Co.*

American Steam Fire-Engines in England.

From the London *Engineer* of the 28th March, we learn that a trial of an American steam fire-engine, taken to that country by Mr. Lee, of the Novelty Iron Works, New York, recently took place at the distillery of Mr. Frederic Hodges, Lambert. Besides several distinguished visitors, including the Duke of Sutherland, the Earl of Caithness, Mr. T. Hankey, M. P., &c., a large number of engineers, among whom were Mr. Scott Russell, Mr. J. E. McConnell, Mr. C. E. Amos, Mr. Appold, Mr. Shand, &c., were present. Mr. Hodges first exhibited the working of his two hand-engines, the largest in London, a detachment of the Grenadier Guards, 80 in number, being mustered for manning the handles. The hand-engines drew their water from a well 6 feet below the suction valve, and one of them threw a 1-inch jet about 125 feet high, the chimney of the distillery, 140 feet high, forming a good standard of measurement.

The hand-engines were worked by 40 men each. The steam fire-engine was then brought out, the fire laid, and the match applied at 3.58 P. M. In five minutes the pointer of the steam gauge began to move, in seven minutes the pressure of steam was 5 pounds, in ten minutes 12 pounds, in eleven minutes 15 pounds, and the engine commenced working at this pressure. A minute afterwards the steam was at 30 pounds, in two minutes 65 pounds, and in three minutes 120 pounds, whence it gradually rose to 140 pounds. The boiler made steam in the greatest abundance, and it was some times requisite to check the fire to keep it below 200 pounds. The engine was worked by Mr. Lee, the patentee, assisted by Mr. Charles B. King. The water was taken from a source a few feet above the engine, and led into the pump under the moderate pressure thus obtained. A 1-inch jet was thrown at least 5 feet over the chimney, or 145 feet vertically. The *Times'* report states the height to which the jet was thrown as 150 feet the same sized jet was afterwards thrown 191 feet horizontally.—*Merchants' Magazine.*

Depth of Mines in England.

An English journal, after valuing the total product of the mines of Great Britain at £41,491,102 per annum, and computing that England's supply of coal will last at least seven hundred years longer, at present rates of consumption, gives the following account of the depth to which the bowels of the earth have been pierced in England:

The depth to which we mine for coal is already great. The pit at Duckenfield, in Cheshire, is 2,004 feet below the surface to the point where it intersects the "Black Mine Coal," a seam which is four feet six inches thick, and of the best quality for domestic and manufacturing purposes; from this point a further depth of 500 feet has been attained by means of an engine plane in the bed of coal, so that a great portion of the coal is now raised from the enormous depth of 2,504 feet. At Pendleton, near Manchester, coal is daily worked from a depth of 2,185 feet; and the Cannel coal of Wigan is brought from 1,778 feet below the surface. Many of the Durham collieries are equally deep, and far more extended in their subterranean labyrinths.—Some of those, and others in Cumberland, are worked out far under the bed of the sea; and on both sides of the island we are rapidly extending our sub-oceanic burrowing.

Dolcoath tin mine, in Cornwall, is now working at 1,800 feet from the surface, and is rapidly sinking deeper. The depth of Tresavean, a copper mine is 2,180 feet. Many other tin and copper mines are approaching these depths; and under the Atlantic waves, in Botallack, Levant, and other mines, man is pursuing his labors daily at half a mile from the shore. To aid the miner in these severe tasks steam engines with cylinders one hundred inches in diameter, are employed in pumping water from these vast depths. Winding-engines, which are masterpieces of mechanical skill, are even at work raising the minerals from each dark abyss, and "man-engines," of considerable ingenuity—so-called because they bring the wearied miners to the light of day, saving him from the toil of climbing up perpendicular ladders—are introduced in many of our most perfectly conducted mines. Our coals cost us annually one thousand lives, and more than double that number of our metalif-

erous miners perish from accidents in the mines, or at an unusually early age—thirty-two—from diseases contracted from the conditions of their toils. By the industry of our mining population there is annually added to our national wealth considerably more than thirty million sterling. This, when elaborated by the process of manufacture, is increased in value tenfold. While we are thus drawing upon that "hoarded treasure, guarded by dragons white and red," which the enchanter Merlin is fabled to have concealed in the caves of the earth, we should not cease to remember how much of mental labor and muscular power is expended, and how large a percentage of human life is annually sacrificed in the contest with those hydra-headed evils which are truly personified by the dragons of the legend.

NATURAL HISTORY.

Spare the Birds.

Some years ago, the Legislature of New Jersey were induced to pass a law for the protection of small birds, and since that date many of the other States have made similar laws.

Unfortunately, old abuses, even after they are generally admitted as such, are permitted to continue from sheer good nature, and thus farmers, notwithstanding the passage of these laws for the protection of small birds, are slow to have the laws enforced. It is estimated that a pair of Thrushes will destroy 600 caterpillars in a day, and many birds have been found to have 1000 insects in their craw at one time. Oh, for a bird which would kill the Curculio; if such a bird could be found, it would be a greater blessing to the country than the gold regions of California.

A correspondent of the *Horticulturist* gives an interesting account of the address delivered by Baron von Tschudi, the celebrated Swiss naturalist, at a late agricultural meeting at St. Gallen, in Switzerland.

"Without birds," said he, "no agriculture and vegetation are possible. They accomplish in a few months the profitable work of destruction which millions of human hands could not do half so well in as many years. Among the most deserving birds he counts swallows, finches, titmice, redtails, &c. In a flower garden of one of his neighbors, three tall rose trees had suddenly been covered with about 2000 tree lice. At his recommendation, a marsh titmouse was located in the garden, which in a few hours consumed the whole brood and left the flowers clean. A redtail in a room was observed to catch about 900 flies in an hour. A couple of night swallows have been known to destroy a whole swarm of gnats in fifteen minutes. A pair of gold-crested wrens carry insects as food to their nestlings upon an average 36 times in an hour. For the protection of orchards and woods, titmice are of valuable service. They consume, in particular, the eggs of the dangerous pine spiders. One single female of such spiders frequently lays from 600 to 800 eggs, twice in the summer season, while a titmouse with her young ones consumes daily several thousands of them. Wrens, nuthatches and woodpeckers often dexterously fetch from the crevices of tree bark numbers of insects for their nestlings."

Tschudi considers sparrows to be very useful birds, as one single pair usually carry to their nest every day about 300 caterpillars, an advantage that amply compensates for the cherries the bird steals in the garden. Owls also consume, morning and evening, vast numbers of wood insects. Some species of birds, such as starlings, jackdaws, rooks, jays, and speckled magpies, are famed for destroying maybugs or cockchafers. Most of the smaller birds feed, either entirely or partially, especially during the hatching season, on insects, worms, snails, spiders, &c.; so do also the hedge-sparrows, woodpeckers, thrushes, fly-catchers (*Muscicapas*), wagtails, larks, &c."

There should be no delicacy on the part of farmers to prevent the apprehension of those who destroy the insect-killing birds. They should be pursued and punished, until this custom of wilfully murdering innocent and useful birds is rendered a thing of the past.—Insects will cost the country, during the present year, half as much as the war, and still a morbid kindness toward those who destroy our only safe-guard, the birds, prevents many a crop from perfecting.—*Working Farmer.*

Stray Leaves from the Book of Nature.

Some plants go regularly to rest, and sleep so profoundly that in a clover-field not a leaf opens until after sunrise, and others in South America are universally known as the "sleepers." Most mimosas fold up their delicate, feathery leaves as night approaches, and when the sun rises once more, the little sleepy ones unfold again, slowly, and, as it were, reluctant, like some of us, to begin their work anew. It has even been observed, that these so-called sensitive plants, when wounded or otherwise suffering, cannot sleep, but keep their leaves open and erect all night long, until they perish. Other plants close their leaves during the day, and awake from their slumbers at night, while a few even droop and clasp the stem, as if seeking support in its strength, whenever the sky is overcast and a storm is threatening.

This peculiar faculty of sleep stands in immediate connection with the general power of certain leaves to move, either upon coming in contact with other bodies, or, apparently, in spontaneous motion. All the above-mentioned mimosas fold up their leaves when merely

touched: first one little leaflet will be closed, then another, until the whole leaf proper, with its delicate footstalk, droops down and clasps the stem of the parent. If the plant is very irritable—and nervousness is *here* found to be in proportion to *good* health—the other leaves will follow the example, until the whole little plant plays, to use a Virginia phrase, "'possum," and looks, for all the world, as if it were asleep. The oxalis of this continent requires several successive strokes to produce the same effect, and the robinia, or locust, which sleeps at night, must be violently shaken. The common wild lettuce, also, shows a great irritability, and curiously enough, only when the plant is in flower. Upon being touched, the leaves contract beneath, and force out, above, a milky juice, with which they soon become covered.

The so-called spontaneous movements of leaves and other parts of plants arise mostly, though not always, from their general tendency to turn towards the light. Little is as yet known with accuracy of this interesting feature in the life of plants. A great number of leaves, however, alter their position by night and by day. Some make a half, some a quarter revolution, and then turn their points downward. Others, again, fold up, in regular order, the youngest leaf first, as if it required most rest, whilst the oldest are apt to do entirely without it. In other plants it is the state of the atmosphere which determines such movements—the beards of the geranium and the wild oat curl up in dry weather, and straighten again in damp days—other plants do the contrary. The hygrometrica of S. America closes the leaflets of its finely pinnated foliage long before the clouds rise, and thus foretells the impending change of the weather, and the plant, known among us as the fly-trap, is called in its home on the warm plains on the banks of the Senegal, the good-morning flower, because at that season of the day it gracefully bends over and bows to the passer-by. On the banks of the Ganges, however, exists a vegetable form, so quick of life as to resemble some of the minor animals in its motion. The leaflets of this singular plant are in perpetual motion; one leaflet will rise by a succession of little starts, and then fall in like manner; while one rises, another droops, and thus the motion continues and extends over the whole foliage. Nor does it cease at night; in fact, it is said to be more vigorous even in the shade, and in the still, hot hours of an Indian summer night the plant is full of life and incessant motion. Not less singular is the action—for it is more than motion—of plants, like Venus' fly-trap, and others. The flowers are covered with sweet honey, and thus allure many an unfortunate insect, which has no sooner touched the sweet store, than the plant moves either the long stiff hairs, which grow along the middle nerve, or closes its crown of gorgeously colored leaves above, and thus seizes upon the unlucky robber. We can speak no longer of sweet, innocent flowers—for so fond are these blood-thirsty plants of their favorite delicacies, that they will not thrive in green-houses from which insects are excluded, and gardeners have been compelled to supply them, strange as it may sound, literally with animal food, to see them thrive and blossom as in their native home.—*M. Schele de Vfre.*

Insect and Grain Eating Birds.

The French Senate has been engaged in a curious matter of practical natural history. Four petitions had been received, pressing on the Minister of Agriculture and Commerce the importance of protecting those birds which destroy insects injurious to vines and corn.—The committee had enjoyed the benefit of the knowledge and experience of M. Geoffry St. Hilaire and M. Florent Prevost, and consequently the report was filled with matter most interesting to the farmer, the statesman, and the naturalist. In the first place, the report enumerates the various kinds of insects which in this country commit terrible ravages upon the most valuable products of the earth, including in the first rank corn, vines, and oil; the value of the wheat destroyed in a single season, in one department of the east of France, by the *cecidomigie*, had been established at four millions of francs. Instances were given to show the enormous fecundity of some of these pests. In a single specimen of the phlœoribus (the great enemy of the olive), a naturalist found 2,000 eggs. In Prussia the ravages of the norme were so great that an attempt was made to collect the eggs; and in one day, in a tract of forest land, four bushels, or about 180,000,000, were got together and destroyed. The crow is condemned in the report. This is counter to the opinion of scientific men in England, who praise the birds for eating insects, while the French condemn them as destroying other insect-eating birds. The granivorous birds, such as the sparrow, are considered to do more good by their destruction of insects and eggs than by the consumption of seeds, Owls, the woodpecker, swallow and singing birds, are recommended to protection.—*Scientific American.*

Humming Bird's Nest.—A California paper thus describes the humming bird's nest, in the garden of William Hawley in Marysville:

The nest contained two of their young. It is about the size of a black walnut, of a very fine texture, almost white, much resembling woolen cloth, and firmly bound to the twig of a peach tree, within three feet of the ground. The young birds are not much larger than grains of coffee, and present a very singular appearance.

SCIENCE, ART, STATISTICS.

Muscular Strength.

The muscular strength of the human body is wonderful. A Turkish porter will trot at a rapid pace, and carry a weight of six hundred pounds. Milo, a celebrated athlete of Cretona, in Italy, accustomed himself to carry the greatest burdens, and by degrees became a monster in strength. It is said that he carried on his shoulder an ox, four years old, and weighing upward of one thousand pounds, and afterward killed him with one blow of his fist. He was seven times crowned at the Pythian games, and six at the Olympic. He presented himself the seventh time, but no one had the courage to enter the list against him. He was one of the desciples of Pythagoras, and to his uncommon strength that preceptor and his pupils owed their lives. The pillar which supported the roof of the house suddenly gave away, but Milo supported the roof of the building, and gave the philosopher time to escape. In his old age he attempted to pull up a tree by the roots and break it. He partially effected it, but his strength being gradually exhausted, the tree where cleft reunited, and left his hand pinched in the body of it. He was then alone, and unable to disengage himself, died in that position. Haller mentions that he saw a man whose finger caught in a chain at the bottom of the mine, by keeping it forcibly bent, supported by that means the whole weight of his body, one hundred and fifty pounds, until he was drawn up to the surface, a distance of six hundred feet. Augustus II, King of Poland, could roll up a silver plate like a sheet of paper, and twist the strongest horse-shoe asunder. A lion is said to have left the impression of his teeth upon a piece of solid iron. The most prodigious power of muscle is exhibited by the fish. The whale moves with a velocity through a dense medium, water, that would carry him around the world in less than a fortnight. A swordfish has been known to strike his weapon through the thick plank of a ship; a specimen of such a plank with the sword of a fish sticking in it, may be seen in the British Museum.

Old Manuscripts Reproduced.—M. Silvy of Paris, has recently reproduced photographically one of the curious old manuscripts of early literature. He states that not only is the copy more legible than the original, but certain passages which could not be deciphered on the old parchment have been actually revived; and this is particularly visible on the last page, where a note, written in German under the signature, has become both visible and legible, while there is not a trace of it left on the original. This curious circumstance is explained as follows: "During the photographic process, the brilliant and polished parts of the parchment reflect light much better than those where the ink has been deposited. However colorless it may appear, the ink has not lost its anti-photogenic qualities, opposed to the photogenic ones of the parchment; and thanks to this opposition, black characters may be obtained on the sensitive surface, in return for much paler ones on the original."

What is Heat Lightning?—The flashes of lightning often observed on a Summer evening, unaccompanied by thunder, and popularly known as "heat lightning," are merely the light from discharges of electricity from an ordinary thunder-cloud beneath the horizon of the observer, reflected from clouds, or perhaps from the air itself, as in the case of twilight. Mr. Brooks, one of the directors of the telegraph line between Pittsburg and Philadelphia, informs us that, on one occasion, to satisfy himself on this point he asked for information from a distant operator during the appearance of flashes of this kind in the distant horizon, and learned that they proceeded from a thunder storm then raging two hundred and fifty miles eastward of his place of observation.—*Prof. Henry.*

EDUCATIONAL.

Habit of Writing.

The habit of expressing their ideas upon paper is so neglected by many who profess a good common education, that it is quite a task for them to write, even letters to dear friends. That this will continue to be the case until a more efficient system for teaching children to compose is introduced into our common schools, no one who has given the subject any thought can doubt. Neither will they doubt that the neglect of this important branch of education in our district schools is a grave fault which ought to be corrected as soon as possible. This neglect arises mainly from the over anxiety of parents to have their children get along fast with their other studies. They usually give them their arithmetic, geography and grammar before they can read well enough to understand much of their contents, even though the teacher make herculean efforts to enlighten their minds, for teachers are expected to get their pupils along through their books too often, no matter how superficially, or they are voted down, and may look out for other quarters as soon as their term expires, and take a

bad recommend with them at that. Teachers, therefore, pass over this branch but lightly, if they give it any attention, as parents appear to think that composing is no branch of education, but just so much time taken from other studies, and that if their children can read or write a passable hand, cipher, spell and parse, that they can write well enough; and so they can write, but never in the easy graceful style of the ready writer, as they might just as well do by devoting a few moments of each day's session to that object, and that too without any detriment to other studies, if the correct course were persued. But I must confess that the custom of the teachers ordering a composition once a week or in two weeks, and then paying no more attention to the subject until the day arrives for the reciting, with the exception, perhaps, of correcting a few mispelled words, is more honored in the breach than the observance, as it is commencing at the wrong end of the skein and all will soon be in a snarl. It is in fact requiring the child to do that which he has never been taught to do, instead of teaching him how to do it in a proper manner. For pupils just commencing, the teacher should read a sentence to be written by the children upon their slates or the black-board, leaving a few words blank to be supplied by them. As the exercise becomes familiar more blanks may be left. Then they should be required to compose short sentences. In this manner children who can but just write will quickly become interested, and if they are encouraged to proceed, will soon write readily. If such a system were pursued regularly, not for one term, but by every teacher each term, no boy or girl would attend their district school until eighteen or twenty years of age and not know how to write letters, that they need be ashamed of. May that time soon come. MRS. G. H. A.

DANVILLE, WIS.

Neatness in the School-Room.

Every school-room should be neat and pleasant. The surroundings of a teacher serve as a very good index to his character. When we see a schoolhouse in a slovenly condition—everything out of place and untidy—the pupils awkwardly arranged on their seats, and perhaps with dirty hands and faces—the house itself dirty, and all its out-door surroundings in a neglected condition—we know that the teacher himself has not a neat and accurate character. If he has not observation and judgment enough to know when the schoolhouse is in order, in all its minute details, his mind lacks some essential that unfits him to be a teacher. But if he *does* know what a school requires, in all little things, and has not effort and energy enough to bring it about, he is still more unfitted to be an example and teacher of youth. Children must be taught neatness, effort, accuracy, and energy;—and they must be taught these both by precept and example—and especially by example. A teacher, then, who does not combine these in his character and make them visible in his labors, should not presume, in his present condition, to stand before children as their guide and pattern.

We are aware that some teachers will say that "in such a house as they are teaching and with such children, it is useless to try to be neat and orderly." We think differently. No kind of house or children is an excuse for lack of neatness and order, so far as the work of the teacher may affect it. We know that such conditions serve as a discouragement, but they never unnerve the true teacher or divert him from his task. They only serve to show us the genuine metal.

We have seen some very poor schoolhouses filled with poor and homely clad children, and yet all in the school-room had the air of neatness and order. The spirit of the teacher was visible there. While on the other hand we have seen schools that had all things necessary for the most perfect neatness and order and yet these were lacking. The teacher was in fault. And it does seem, too, that any ordinary teacher should have ambition enough, if no nobler motive impelled him, to correct such a fault.

On one occasion in our school visitations we found a mammoth black, coal box, with other unseemly matter, in a school-room that was otherwise neat;—and this too in mid-summer. How strangely in contrast was this with another house not many miles distant from the former where we entered the door under an archway of green vines and flowers, and where all within and around was indicative of the teacher's spirit of taste and order. Such a place is a fit nursery for the intellects and characters of the young. It is natural for children to grow up in harmony with their surroundings, and teachers should possess sufficient philosophy to know that these little silent every-day influences that shine in on their characters, mark them forever.

Let every teacher see to it, then, that he teaches neatness, spirit and order both by precept and example.—*Home and School Journal.*

THE HOME.

Just Across the River.

BY LULIE LABERLEER.

Infant by the river side,
Sunny-haired and dreamy-eyed,
Looking o'er the water wide,
Longing to be over;
For beside the water's flow
Wealth of tempting flowers grow—
Just across the river.

Little maid with laughing eye,
Watched the floating leaves go by,
Watched the nimble dragon-fly
As they rowed her over;
Far beyond, within the wood
Nestled down, the school-house stood—
Just across the river.

Beauteous bride with tresses bright,
Gazing at the starry night,
Gazing at the milk-way white
All out-mapped above her;
Thinking of a cottage fair,
Waiting for a mistress' care
Just across the river.

Weary, broken-hearted wife,
Done at last with toil and strife,
Done at last with fruitless life,
Going out forever;
Going to an earthly tomb;
Going to a heavenly home;
Where unfading flowers bloom,
Just across the river.

The Healthy Man.

Of all the know-nothing persons in this world commend us to the man who has "never known a day's idleness." He is a moral dunce, one who has lost the greatest lesson in life, who has skipped the finest lecture in that great school of humanity, the sick-chamber. Let him be versed in mathematics, profound in metaphysics, a ripe scholar in the classics, bachelor of arts, or even a doctor of divinity; yet he is one of those gentlemen whose education has been neglected. For all college acquirements, how inferior is he in useful knowledge to a mortal who has had but a quarter's gout, or half a year's ague—how infinitely below the fellow-creature who has been soundly taught his tic-douloureux, thoroughly grounded in the rheumatics, and deeply *red* in scarlet fever! And yet what is more common than to hear a great hulking, florid fellow, bragging of an ignorance, a brutal ignorance, that he shares in common with the pig and bullock, the generality of whom die, probably without ever having experienced a day's indisposition? —*Hood.*

A JUDICIAL WAY.—Judge Norton was solemn, stern and dignified to excess. He was also all at once egotistical and sensitive to ridicule. Judge Nelson was a wit, careless of decorum, and had a sharp voice. He did not like Judge Norton. At a bar supper, Judge Norton, in an elaborate speech, referring to the early days of Wisconsin, the rude practice of that period, and the discomforts of a profession in that country, described in a tragic manner a thunderstorm which once overtook him in riding the old circuit.

"It was a night in the forest; the scene was awful, and," said the Judge, "I expected every moment the lightning would strike the tree under which I had taken shelter."

"Why, then," interrupted Nelson, in his peculiar squeal, "why in thunder, then, didn't you get under another tree?"

The Modern Discovery of Woman.

The nineteenth century, among other inventions and discoveries, has discovered Woman! It was not enough that she was placed in the garden of Eden for us. We were blind for many thousand years. When the world was young, we made her fetch our wood and cook our food and play the menial. In our days of chivalry we taught her to be a pretty Amazon, to dress our wounds, to bind her scarf about our helmet, to receive a fantastic and insincere adoration. Then as if there were never to be an end to our nonsense, we fancied that she was an Arcadian shepherdess, or a lovely wood-nymph with confused ideas of virtue. Then was the sickly, sentimental, pastoral age in full blast. Then did she tap us on the cheek with her fan, and smirk and smile, and paint and powder, and wear her hair four stories high. That was the courtly age. But by-and-by she wearied of these follies. We began to treat her with more sense: then little by little she began to assert herself; the better we treated her the more she asserted, until at last we cried out like Frankenstein. "What monster is this we have created?" But it was not a monster—it was only *a woman!* Great in her weakness, noble in her charity, beautiful in her patience. We have found her out! She was never so recognized as now; we have discovered that she has brain as well as heart; that she can write verse like Mrs. Browning, paint pictures like Rosa Bonheur, and still be all that is gentle and lovable like Florence Nightingale.—*T. B. Aldrich.*

"VATICAN."—Many who see this word may not understand its import. It is a pile of buildings covering a space of 1,200 feet in length and 1,000 in breadth on one of the seven hills in Rome. The site was once the garden of barbarous Nero. Early in the sixteenth century the Bishop of Rome erected there an humble dwelling. This has been added to by one Pope after another, until it is now one of the most spacious and magnificent palaces, stocked with paintings, statues, books and antiquities of the rarest kind.

☞ A western paper says:—"Wanted, at this office, an editor who can please everybody. Also, a foreman who can so arrange the paper as to allow every man's advertisement to head the column."

HEALTH AND DISEASE.

Air as Food.

A recent writer, in a series of articles on "Food and Drink," advances the idea that air is necessary to life, not only as a means of respiration, but as food itself. This is contrary to the generally received opinion, and especially to that of Liebig, the great prophet of animal chemistry; yet it does not appear to be without foundation. The best physicians are now agreed that for the prevention of consumption, the cure of epidemics, and generally for sanitary purposes, fresh air is more needful than everything besides. This could not be if the sole utility of air was to work the respiratory organs. Indifferent air, even positively impure air, would, in that event, only act as a secondary cause to the detriment of the health. But if the air we breathe yields up its constituents, or even portions of them, to make blood and furnish tissue, then it is important that such air should be untainted by miasm, by epidemic influences, or by poisons of any description.

It is not asserted, indeed, that air alone can sustain human life. There are plants, which, there is good reason to believe, live on air alone; but the human organization is more complex, and requires a diversity of food.—The teeth and intestines prove conclusively that nature designed man to eat vegetable and animal food both. Stories have been circulated, and have even been vouched for by physicians, of persons subsisting for days, weeks, and even months, on air alone; that is, without solid food, or even water. But deception is so easy in such cases, and the improbability of the human organism repairing its waste of tissue under such circumstances is so great, that it would require a large amount of reliable and cumulative evidence, collected at different times and from various sources, to warrant a belief in the ability of man to live on air alone. The mere process of respiration would consume the body, in such a condition of things, faster than it could be repaired.

But it is impossible to deny, in the face of the increased science of the age, that air plays a more important part, in sustaining life, than was formerly supposed. The necessity of skillful ventilation, therefore; of living, as much as possible, out of doors; of preserving the air of cities pure by drainage and sanitary provisions; by avoiding miasmatic exhalations; and generally of securing a constant supply of fresh air, is, or ought to be, admitted by all. The press can do much to inculcate the great truth, that pure atmospheric air is better than doctors or their drugs. Thousands of children, annually sacrificed in our crowded cities, might be saved, if mothers understood how vitally important fresh air is, as a part of the food of their little ones.

The Abuse of Coffee and Tea.

Too much is said against tea by wise people, and too much of tea is given to the sick by foolish people. When you see the natural and almost universal craving in the sick for their "tea," you can not but feel that nature knows what she is about. But a little tea or coffee restores them quite as much as a great deal, and a great deal of tea, and especially of coffee, impairs the little power of digestion they have. Yet the nurse, because she sees how one or two cups of tea or coffee restores her patient, thinks that three or four will do twice as much. This is not the case at all; it is, however, certain that there is nothing yet discovered which is a substitute to the patient for his cup of tea; he can take it when he can take nothing else, and he often can not take anything else if he has it not. Sleeplessness in the early part of the night is from excitement, generally, and is increased by tea or coffee; sleeplessness which continues to the early morning, is from exhaustion, often, and is relieved by tea.

In general, the dry and dirty tongue always prefers tea to coffee, and will quite decline milk unless with tea. Coffee is a better restorative than tea, but a greater impairer of the digestion. Let the patient's taste decide. You will say that, in cases of great thirst, the patient's craving decides that it will drink a great deal of tea, and that you can not help it. But in these cases be sure that the patient requires dilutents for quite other purposes than quenching the thirst; he wants a great deal of some drink, not only of tea, and the doctor will order that he is to have barley-water, or lemonade, or soda-water and milk, as the case may be. Lehmann, quoted by Dr. Christison, says that among the well and active, "the infusion of an ounce of roasted coffee daily will diminish the waste" going on in the body "by one-fourth;" and Dr. Christison adds that tea has the same property. Now, this is actual experiment. Lehmann weighs the man and finds the fact from his weight. It is not deducted from any "analysis" of food. All experience among the sick shows the same thing. Cocoa is often recommended to the sick in lieu of tea and coffee.

Thoughts Essential to Health.

If we would have our bodies healthy, our brains must be used, and used in orderly and vigorous ways that the life-giving streams of force may flow down from them into the expected organs, which can minister but as they are ministered unto. We admire the vigorous animal life of the Greeks, and with justice we recognize, and partially seek to imitate, the various gymnastic and other means which they employed to secure it. But probably we sho'd make a fatal error if we omitted from our calculation the hearty and generous earnest-

ness with which the highest subjects of art, speculation, politics were pursued by them. Surely, in their case, the beautiful and energetic mental life was expressed in the athletic and graceful frame. And were it a mere extravagance to ask whether some part of the lassitude and weariness of life, of which we hear so much in our day, might be due to lack of mental occupation on worthy subjects, exciting and repaying a generous enthusiasm, as well as to an overexercise on low ones, whether an engrossment on matters which have not substance enough to justify or satisfy the mental gasp, be not at the root of some part of maladies which affect our convalescence? Any one who trys it, soon finds out how disproportionately exhausted is an overdose of "light literature," compared with an equal amount of time spent on real work. Of this we may be sure, that the due exercise of brain—of thought—is one of the essential elements of human life. The perfect health of a man is not the same as that of an ox or horse. The predominating capacity of his nervous parts demands a corresponding life.

Cleanliness.

Compare the dirtiness of the water in which you have washed, when it is cold, without soap, cold with soap, hot with soap. You will find the first has hardly removed any dirt at all, the second a little more, and the third a great deal more. But hold your hand over a cup of hot water for a minute or two, and then, by merely rubbing with the finger, you bring off flakes of dirt or dirty skin. After a vapor-bath you may peel your whole self clean in this way. What I mean is, that by simply washing or sponging with water you do not really clean your skin.

Take a rough towel, dip one corner in very hot water—if a little spirits be added it will be more effectual—and then rub as if you were rubbing the towel into your skin with your fingers. The black flakes which will come off will convince you that you were not clean before, however much soap and water you may have used. These flakes are what require removing. And you can really keep yourself cleaner with a tumblerful of hot water and a rough towel and rubbing, than a whole apparatus of bath, and soap, and sponge, without rubbing. It is quite nonsense to say that anybody need be dirty. Patients have been kept as clean, by these means, on a long voyage, when a basinful of water could not be afforded, and when they could not be removed out of their berths, as if all the appurtenances of home had been at hand.

Washing, however, with a large quantity of water has quite other effects than those of mere cleanliness. The skin absorbs the water, and becomes softer and more prespirable. To wash with soap and soft water is, therefore, desirable from other points of view than that of cleanliness.

WIT AND WISDOM.

—Why does a person who is slightly poorly lose his sense of touch? Because he don't feel well.

—Why is a sleepless lover like a briefless barrister? Because he's devoid of ease (of fees.)

—The young man who recently went on a bridal tour with an angel in muslin, has returned with a termagant in hoops.

—All the teeth of a certain scolding lady being loose, she asked a physician the cause of it, he answered that it proceeded from the violent shocks she gave them with her tongue.

—It is not always a mark of frankness to possess an open countenance. An alligator is a deceitful creature, and yet he posesses an open countenance, when in the very act of *taking you in.*

—Rev. Augustus Woodbury in his fourth of July oration at Providence, remarked that, "If the South is willing to sacrifice the Union for the sake of slavery, who can complain if the loyal people are willing to sacrifice slavery for the sake of the Union."

—Æsthetics are strongly blended with morals in woman's mind. With the fair sex good looks are a part of good behavior. It is a woman's duty to be beautiful—as it is her privilege. Thus we were amused not long since at the farewell words of an anxious mother about sending her daughter out into the world. "Be a good girl," said she, "do the best you can, never do anything wrong, and—*be sure and keep your eyebrows brushed up.*

—A Physician was declaiming upon the propensity which a majority of people display for eating unripe fruit and vegetables. He said: "There is not a vegetable growing in our gardens that is not best when arrived at maturity, and most of them are positively very injurious unless fully ripe." "I know one thing that ain't so good when it's ripe as when 'tis green," interrupted a little boy in a very confident but modest manner. "What's that?" sharply said the physician, vexed at having his principle disputed by a mere boy. "A *cucumber!*" responded the lad.

DOMESTIC ECONOMY.

Cooking.

ROASTING, by causing the contraction of the cellular substance which contains the fat, expels more fat than boiling. The free escape of watery particles in the form of vapor, so necessary to produce flavor must be regulated by frequent basting with the fat which has exuded from the meat, combined with a little salt and water; otherwise the meat would burn,

and become hard and tasteless. A brisk fire at first will, by charring the outside, prevent the heat from penetrating, and, therefore, should only be employed when the meat is half roasted.

The time required to roast various articles of food with a clear, good fire, is given below:

	H.	M.
A small capon, fowl or chicken, requires	0	20
A large fowl	0	45
A capon, full size	0	35
A goose	1	00
Wild ducks	0	15
Pheasant and turkey poults	0	20
A moderate sized turkey, stuffed	1	15
Quail	0	10
Partridges	0	25

To roast properly, meat should be put a good distance from the fire, and brought gradually nearer when about half the time required for cooking it has elapsed; it should be basted frequently; and, when nearly done, floured, to make it look frothed. Old meats do not require so much dressing as young; and if not fat enough, use a little dripping for basting. Veal and mutton require a little paper put over the fat to preserve it from being burned.

Ten pounds of beef require from two hours to two hours and a half roasting, eighteen inches from a good, clear fire.

Three ribs of beef, boned and rolled, tied round with paper, will require two hours and a half, eighteen inches from the fire: baste once only.

The first three ribs, of 15 or 20 pounds, will take three hours or three and a half; the fourth and fifth ribs will take as long, managed in the same way as the sirloin. Paper the fat and thin part, or it will be done too much before the thick part is done enough.

When beef is very fat, it does not require basting; if very lean, tie it up in a greasy paper, and baste frequently and well.

Common cooks are generally fond of too fierce a fire, and of putting things too near to it.

Slow roasting is as advantageous to the tenderness and flavor of meat as slow boiling.

The warmer the weather, and the staler killed the meat is, the less time it will require to roast it.

Meat that is very fat requires more time than other meat.

Boiling extracts a portion of the juice of meat, which mixes with the water, and also dissolves some of its solids; the more fusible parts of the fat melt out, combine with the water, and form soup or broth. The meat loses its red color, becomes more savory in taste and smell, and more firm and digestible. If the process is continued *too* long, the meat becomes indigestible, less succulent, and tough.

The established rule, as regards time, is to allow a quarter of an hour for each pound of meat, if the boiling is rapid, and twenty minutes, if slow. There are exceptions to this; for instance, ham and pork, which require from twenty to twenty-five minutes per pound, and bacon nearly half an hour. For solid joints, allow fifteen minutes for every pound, and from ten to twenty minutes over; though, of course, the length of time will depend much on the strength of the fire, regularity in the boiling, and size of the joint. The following table will be useful as an average of the time required to boil various articles:

	H.	M.
A ham, 20 lbs. weight, requires	6	30
A tongue, (if dry), after soaking	4	00
A tongue out of pickle	2h. 30m. to 3	00
A neck of mutton	1	30
A chicken	0	20
A large fowl	0	45
A capon	0	35
A pigeon	0	15

Broiling requires a brisk, rapid heat, which, by producing a greater degree of change in the affinities of the raw meat than roasting, generates a higher flavor, so that broiled meat is more savory than roast. The surface becoming charred, a dark-crust is formed, which retards the evaporation of the juices; and, therefore, if properly done, broiled may be as tender and juicy as roasted meat.

Baking does not admit of the evaporation of the vapors so rapidly as by the processes of broiling and roasting; the fat is also retained more, and becomes converted by the agency of the heat into an empyreumatic oil, so as to render the meat less fitted for delicate stomachs, and more difficult to digest. The meat is, in fact, partly boiled in its own confined water, and partly roasted by the dry, hot air of the oven.

Frying is, of all methods, the most objectionable, from the food being less digestible when thus prepared, as the fat employed undergoes chemical changes. Olive oil, in this respect, is preferable to lard or butter. To fry fish well, the fat should be boiling hot (600 degrees,) and the fish *well dried* in a cloth; otherwise, owing to the generation of steam, the temperature will fall so low that it will be boiled in its own steam, and not be browned. Meat, or indeed, any article, should be frequently turned and agitated during frying, to promote the evaporation of the watery particles.

To make fried things look well, they should be done over *twice* with egg and stale bread crumbs.

To make Vinegar.—Boil slowly, for one hour, three pounds of very coarse brown sugar in three gallons of water; work it with a little yeast, the same as you would beer; then put it into a cask, and expose it to the sun, with a piece of brown paper pasted over the bung-hole, and it will soon become fine vinegar, fit for pickling or any other purpose.

To prevent Lamps from Smoking.—Dip the wick-yarn in strong hot vinegar, and dry it, before putting it in your lamp.

YOUTH'S CORNER.

All about my Friends.—No. 1.

One day, early last spring, hearing a peculiar noise, several times, in the chamber, I went up stairs to see if I could ascertain the cause of it. After listening and watching for awhile, I heard the noise again, and looking in the direction, I saw a singular looking mouse. It was larger than common house-mice, and of altogether a different color. Its back was a bright, reddish brown, its belly cream-white, and its feet, silver-white. It made the noise by drumming with its foot, which it did every time it came from its hiding place. It acted so funny, and was such a *pretty* little fellow, that I proceeded at once to "make friends" with it, by giving it some corn, and crumbs of bread.

The next evening there was a great scampering, and squeaking, among the mice in the chamber, and the next day I found several dead mice in the chamber, some of them partly eaten, and from that time to this, I have not seen a common mouse about the house. But my friend the mouse with red back, white belly and toes, became quite tame, and is allowed to go all through the house. It never makes any trouble by gnawing bags, boxes, &c.

Whenever a quantity of food is given it, it will immediately carry it away, not to its nest, but to any place where it can hide it—under a cushion, in a boot—wherever it can get it out of sight, then afterwards it will get it as it wants it to eat. Unlike other mice, it eats the whole of a kernel of corn, instead of eating only the chit. The mouse did not make the drumming, after the first day, except when it went to some place where it was not used to going. UNCLE WILLIAM.

[This mouse is a species of field mouse undoubtedly. Twenty years ago, when pioneering in Waukesha county and making a farm out of the broad acres then lying idle, we caught an animal very similar to the one described. Living in a house with a loose floor, he had access to all parts of it, and one morning we found a half pint of corn stowed in the toe of one of our boots. Curiosity prompted us to catch the perpetrator. It proved very much like the one described by "Uncle William." Of his other qualities we cannot speak.]—ED. *pro tem.*

WAR MISCELLANY.

Lines.

Men of the Northland! where's the manly spirit
Of the true hearted and the unshackled gone?
Sons of old freemen! do we but inherit
Their names alone?

Is the old Pilgrim spirit quenched within us?
Stoops the strong manhood of our souls so low
That Mammon's lure or Party's wile can win us
To silence now?

Now, when our land to ruin's brink is verging,
In God's name let us speak while there is time!
Now, when the padlocks for our lips are forging,
Silence is crime!

What! shall we henceforth humbly ask as favors
Rights all our own? In madness shall we barter
For treacherous peace the freedom Nature gave us,
God and our character?

Here shall the statesman forge his human fetters,
Here the false jurist human rights deny,
And in the church their proud and skilled abettors
Make truth a lie!

Torture the pages of the hallowed Bible,
To sanction crime, and robbery, and blood!
And, in Oppression's hateful service, libel
Both man and God!

Shall our New England stand erect no longer,
But stoop in chains upon her downward way,
Thicker to gather on her limbs, and stronger
Day after day?

Oh, no; methinks from all her wild, green mountains—
From valleys where her slumbering fathers lie—
From her blue rivers and her welling fountains,
And clear, cold sky—

From her rough coast and isles which hungry Ocean
Gnaws with his surges—from the fisher's skiff,
With white sail swaying to the billow's motion
Round rock and cliff—

From the free fireside of her unbought farmer—
From her free laborer at his loom and wheel—
From the brown smithshop where beneath the hammer,
Rings the red steel—

From each and all, if God hath not forsaken
Our land, and left us to an evil choice,
Loud as the summer's thunderbolt shall waken
A People's voice!

Startling and stern! the Northern winds shall bear it
Over Potomac's to St. Mary's wave;
And buried Freedom shall awake to hear it
Within her grave.

Oh, let that voice go forth! the bondman sighing
By Santee's wave, in Mississippi's cane,
Shall feel the hope, within his bosom dying,
Revive again.

Let it go forth! The millions who are gazing
Daily upon us from after shell smile,
And unto God devout thanksgiving raising,
Bless us the while.

Oh for your ancient freedom, pure and holy,
For the deliverance of a groaning earth,
For the wronged captive, bleeding, crushed, and lowly,
Let it go forth!

Sons of the best of fathers! will ye falter
With all they left ye perilled and at stake?
Ho! once again on Freedom's holy altar
The fire awake!

Prayer-strengthened for the trial, come together,
Put on the harness for the moral fight,
And with the blessing of your Heavenly Father,
MAINTAIN THE RIGHT!

J. G. WHITTIER.]

Sanitary Measures for the Soldiers.

The Medical Commission of Massachusetts recommend the following directions to the attention of troops in the field:—

Soldiers should recollect that, in a campaign, where one dies in battle, from three to five die of disease. You should be on your guard, therefore, more against this than the enemy, and you can do much for yourselves which nobody else can do for you.

1. Avoid especially all use of ardent spirits. If you will take them, take them rather after fatigue than before. But tea and coffee are much better. Those who use ardent spirits are always the first to be sick, and the most likely to die.

2. Avoid drinking freely of very cold water, especially when hot or fatigued, or directly after meals. Water quenches thirst better when not very cold, and sipped in moderate quantities slowly, though less agreeable. At meals, tea, coffee and chocolate are best. Between meals, the less the better. The safest in hot weather is molasses and water with ginger or small beer.

3. Avoid all excess and irregularities in eating and drinking. Eat sparingly of salted or smoked meats, and make it up by more vegetables, as squash, potatoes, peas, rice, hominy, Indian meal, &c., when you can get them. Eat little between, when you have plenty at meals.

4. Wear flannel all over in all weathers. Have it washed often when you can; when not, have it hung up in the sun. Take every opportunity to do the same by all your clothing, and keep everything about your person dry, especially when it is cold.

5. Do not sit, and especially do not sleep upon the ground, even in hot weather. Spread your blanket upon hay, straw, shavings, brushwood, or anything of the kind. If you sleep in the day have some extra covering over you.

6. Sleep as much as you can and whenever you can. It is better to sleep too warm than too cold.

7. Recollect, that cold and dampness are great breeders of disease. Have a fire to sit around whenever you can, especially in the evening and after rain, and take care to dry everything in and about your persons and tents.

8. Take every opportunity of washing the whole body with soap and water. Rub well afterward. If you bathe, remain in the water but a little while.

9. If disease begins to prevail, wear a wide bandage of flannel around the bowels.

10. Keep in the open air, but not directly exposed to a hot sun. When obliged to do this, a thin, light covering over the head and neck, in the form of a cap with a cape, is a good protection.

11. Wear shoes with very thick soles, and keep them dry. When on the march, rubbing the feet, after washing, with oil, fat or tallow, protects against foot-sores.

Soldier-Health.

In our variable climate, it is necessary for soldiers to have clothes that will afford judicious protection against excessive heats and sudden chills. The head and neck should always be covered when exposed to the burning sun, to prevent sun-stroke, and the body should be sufficiently covered during night, and in rainy weather, to prevent chills.

Cleanliness of the person and of the clothes are necessary to health. When in the field, on active duty, soldiers are in the habit of sleeping with their wearing apparel on, so as to be in readiness to repel an attack or to march at a moment's warning. In such cases it is very difficult to keep the clothes clean, but a very good plan to pursue, is to employ ten or fifteen minutes daily in taking off the entire clothing, hanging the different parts on tent poles or the posts of a fence, and switching them well with a ramrod or a switch cut from a neighboring tree. This will tend to prevent the increase and development of noxious vermin. Bathing daily, either in a stream or only with a sponge, is likewise essential to health.

After a march, or when marching, the face and particularly the eyes, should be wiped with a moist cloth or sponge to remove the dust. The face should never be washed with cold water when heated, either upon or after a march, as by suddenly checking perspiration inflammation of the eyes is very likely to result.

Soldiers are exhorted not to sit or recline upon the damp grass when tired. To enjoy a few minutes' rest on a severe march, it is better to lie down than to sit, but the blanket, or greatcoat should always be employed for reclining upon. When warm with rapid exercise, either in hot or cold weather, a thirsty soldier should drink very cautiously. A French officer once dropped down dead after taking a hurried drink of cold water, in weather when snow was upon the ground. He was perspiring freely, being on a rapid march.

When sleeping at night, no matter how warm the weather may be, the body should be protected with a blanket, or some equally efficient covering. Dysentery most frequently breaks out in camps during nights in which heavy dew falls after a very hot day.

When a camp is situated near a marsh or stagnant pool, the backs of the tents should be arranged towards them; but if possible, when in a marshy country, the camping or bivouacking ground should be chosen in a strip of forest or brushwood interposed between it and the marsh. Small brushwood and leaves make an excellent bed with an india-rubber cloth blanket spread over it, a knapsack for a pillow and a greatcoat for a coverlet.

After an exhausting effort, a cup of tea or coffee is recommended. Eating heartily after a weary march or a fatiguing struggle, is forbidden; also eating heartily before going into a battle, and also immediately preceding lying down to sleep. Supper should always be early, but when prevented from obtaining it until a late hour, the quantity partaken should be very moderate. Better go to bed supperless than gorged with food.

It is a common practice in the army for soldiers to have their canteens filled with whisky or brandy, of which they usually partake rather too freely when on a march and on guard during night. Atkinson, the English traveler in Tartary and Siberia, states that cold tea is more exhilarating when traveling than ardent spirits, according to his experience. Weak wine is used by the French soldiers, and in situations where the water is bad, coffee or some other pleasant and palatable beverage is positively necessary. Nothing tends to dispirit men more than water or food which they loathe. Before and after mounting guard, a cup of warm coffee would be a blessing by day and night, but such luxuries are not regularly provided in the common regulations of an army.

It is rather remarkable that with the improvements made in the implements of war, the provisioning of armies goes on in the old-fashioned manner. Milk and butter are unknown in army rations.

Fevers, diarrhœa and dysentery are the most prevalent diseases in armies. The first is generally preceded by costiveness. To prevent this, the bowels should be kept in proper condition. A very small piece of rhubarb chewed and swallowed daily, or every second day, is a good preventive of costiveness, and it is generally used in European armies for this purpose. When a soldier is attacked with diarrhœa, he should bind a handkerchief or piece of flannel round his bowels, and, if possible, lie perfectly still. Dysentery is usually attended with severe pain; the surgeon of the regiment should at once be informed of every case of sickness among the men over whom he is placed as the guardian of their health.—*Dr. Hall.*

The Power and Resources of the Nation.

The conscription of 600,000 men called for by the President is looked upon by many as an unheard of draft upon the resources of the nation. This is an erroneous idea, and it tends somewhat to depress the public mind. To correct this wrong impression we propose to place before our readers what France and Great Britain did in the year 1813, after they had both been waging a fierce and exhausting war by sea and land, since 1793, embracing a period of over twenty years. In the year 1813, France with a population of 28,700,000, or about 5,000,000 more than that of the loyal States, had an effective army and equipepd, and in the field, engaged in active service, of a million of men.

France also had 3,500,000 horses, which consumed as much food as 30,000,000 of people. The official details of this army were:

	MEN.
20 regiments of the Guards,	60,000
152 regiments of Infantry,	640,000
37 regiments of Light Infantry,	84,000
45 regiments of Artillery,	63,000
30 battallions of wagon trains and heavy Artil'ry	32,000
80 regiments of Cavalry,	100,000
15 foreign Battallions,	12,000
TOTAL effective men in the field in service fully equipped,	996,000

In this same year, 1813, the conscription was also issued for twelve hundred thousand men, and it was allotted as follows:—

1. 350,000 drawn from those on the lists for conscription in 1812 and 1813, and from 1810 to 1813.

2. 1800,000 men from those on the list for 1814.

3. 120,000 men from that of 1814, 160,000 men from that of 1815.

4. 300,000 men from that of 1811 to 1815.

Great Britain, in 1813, with a population, including that of Ireland of 18,547,720, or about 5,000,000 less than the loyal States, had a total military and naval force under arms of 1,165,520 men, composed as follows:—

Regular Army,	381,357
Local Militia and Volunteers,	372,000
Foreign Troops,	32,163
Troops in Canada,	40,00
Native Indian Aramy,	200,000
Sailors and Marines,	140,000
Total effective force, equipped and in the field,	1,165,520

By the official report from Washington for 1860, the domestic manufactures of the United States were 1,900,000,000 annually. Our flour and grist mills produced $223,144,369; boots and shoes, $75,674,946; clothing, $41,250,000; jewelry, $17,250,000; machinery, exclusive of sewing machines, $47,118,150; sewing machines, $5,605,305; bar and rolled iron, $32,248,796; iron foundries, $27,970,198; and lumber, $95,912,286.

Our population in the loyal States is about 23,000,000, our banking capital has been strengthened since 1860 by the addition of

about $100,000,000 in specie, by our grain exports to Europe, and the free navigation of the ocean and of every avenue of commerce in the world is open to our merchants as in times of peace, excepting that in the Southern States. Our resources are therefore superior to those of France and Great Britain in 1813, and we are just as able to carry on this war for twenty two years, as those nations were from 1793 to 1815.

The French national debt at the end of the war in 1814 was $250,000,000, and the annual interest on the same was $12,500,000.

This small debt, after the long and expensive wars of France from 1793 to 1812, was due to the talent of Napoleon as a financier, and to his strict adherence to sound principles of finance. Napoleon always adhered to specie as the only standard for money, and he never permitted inconvertible paper money to be used in France.—*Methodist.*

Shot and Shell.

The general adoption of rifled fire arms during a comparatively few years, is due principally to improvements in the missiles employed, namely, expanding bullets. These enable rifles to be loaded with great ease and rapidity, hence the adoption of the latter. Formerly shell were fired exclusively from mortars, now they are fired from cannon and small arms.—There are two kinds of shell—the percussion and the fuse. The former is made with a nipple on the point, upon which is placed a percussion cap, which explodes when it strikes, and ignites the charge in the shell. The fuse is a match connected with the charge, and made of such length, that it will burn during the flight of the shell; so as to reach the charge at any calculated distance—1,000, 2,000 or 3,000 yards, &c. Breech loading cannon and rifles are most safe and convenient in loading with shell. Shrapnel is a shell loaded with a charge of small balls. These are scattered about in every direction when the shell explodes. If there is a mass of men, say at 1,000 yards distance, the ignited fuse is arranged to reach the column, and there explode the shell, scattering a quantity of shrapnel shot all around. Rifled cannon are not suitable for firing grape and cannister shot, therefore, however effective rifles may be for long distances some smooth bores will always be used in batteries for the murderous discharge of grape at short ranges. Hot solid shot, and shells filled with molten iron are now used in warfare, chiefly in land batteries against ships-of-war. In August 6th, 1855, J. McIntosh secured an English patent for a shell filled with naphtha, and connected with a fuse which ignited the naphtha when the shell fell, and produced dense suffocating fumes. These shells are very dangerous when thrown into forts and ships.—*Scientific American.*

The Widowed Sword.

FROM AN ENGLISH PAPER.

They sent me the sword that my brave boy wore
On the field of his young renown—
On the last red field, where his fate was sealed,
And the sun of his days went down.
Away with tears
That are blinding me so;
There is joy in his years,
Though his young head be low,
And I'll gaze with a solemn delight evermore
On the sword that my brave boy wore.

'Twas for freedom and home that I gave him away,
Like the sons of his race of old;
And though aged and gray, I am childless this day—
He is dearer, a thousand fold.
There is glory above him
To hallow his name—
A land that will love him
Who died for its fame;
And a solace will shine, when my heart is sore,
Round the sword that my brave boy wore.

All so noble, so true—how they stood, how they fell
In the battle, the plague, and the cold;
Oh, as bravely and well, as e'er story could tell
Of the flowers of the heroes of old.
Like a sword through the foe
Was that fearful attack,
That so bright ere the blow
Come so bloodily back,
And foremost among them his colors he bore,
And here is the sword my brave boy wore.

It was kind of his comrades, ye know not how kind:
It is more than the Indies to me;
Ye know how kind and how steadfast of mind
The soldiers to sorrow can be,
They knew not how lonely—
How grievously wrung
Is the heart that its only
Love loses so young;
And then closed his dark eye when the battle was o'er,
And sent his old father the sword that he wore.

The Figures on Dress Parade.

Assuming an army of 600,000 men formed into line, single rank, they will show a front of twenty-three miles, allowing two feet to a man, which is rather close packing for free movements. We will counter-march one half—the right wing—and place them as a rear rank, (the usual formation) and we have a front of eleven and a half miles, which distance they would require when marching in column of platoons. Should the generalissimo wish to make a rapid inspection, if he had the appliances of a parallel railroad track, and a fast locomotive, he may run down in front of the line in a quarter of an hour, and make a hasty review. If mounted on his charger, at a smart trot, it would require over a half hour. This respectable army, formed in a hollow square, (in double rank) would be nearly three miles from side to side, showing on each front a fraction under three miles. The inclosure would contain 5,760 acres, an area equal to some immense Indian corn-fields in Illinois.—When marching in column, it would require a whole day, taking the thing easy, for the extreme left wing to reach the point left by the right wing in the early start. When we add the commissariat, artillery, and other wheel

transports we must give the army two whole days before the left wing debarks from the starting point of the right wing. If this immense army were formed in a solid square, allowing about four square feet for a man, they would cover about 150 acres, and form a block of bayonets a fraction under a quarter of a mile square. Estimating each man as carrying weight of musket, equipments, rations, &c., at fifty pounds, this army will have trudged along with 15,000 tons. Allowing two pounds of provisions per diem for each man, they consume 600 tons per day, and if they drink one quart of water per day, which is the best drink for an army, they consume 150,000 gallons—say 1,200 hogsheads, which is a clever sized ship load, each day.

Opinions about Learning to Shoot—The Position.

We stated that some persons appeared to be naturally incapable of becoming good marksmen, as they *dodged*, just when the trigger was pulled. A Maryland correspondent alludes to our statement, and asserts that twenty years' experience and observation have taught him that any person may become a good shot by observing the following directions:—"Allow the rifle to hang in the hands in an easy manner, declined at an agle of about 40°; then raise it steadily but quickly in a line with the object, the eye ranging carefully over the sights, and at the instant the object arrived at is covered, touch the trigger." He says, "I find there is a moment in which the gun is absolutely still; that is, the instant the upward movement of it is arrested. These directions observed will certainly make a good shot. If the sight is lost at the first trial, it can be recovered by a second. Any deviation from this rule is fatal to accuracy."—*Scientific American.*

Disabling Cannon.

We have heretofore fully described the common method of spiking cannon, and have shown that the injury was ordinarily but temporary. When time is afforded, such as the deliberate abandonment of a military work, spiking at the muzzle is sometimes adopted, and, when thoroughly done, with far greater embarrassment to those who subsequently come into possession. A shot is driven into the bottom of the bore by wrapping it with felt or using iron wedges, and employing an iron rammer to drive the ball home. When this is done to an iron gun, the only method of unspiking it is to bore a hole in the breech and drive the ball out, closing the hole with a screw. To do this, the gun, in most cases, must go back to the foundry. In brass guns, which usually have vent-pieces, these can be taken out and the ball expelled by wedges. Various modes for destroying cannon are adopted. Shells are sometimes exploded in them, while heavy charges are put in others, over which sand or shot is rammed to the muzzle, and bursting follows. One piece is sometimes fired against another, muzzle to muzzle, or the muzzle of one to the chase of the other. In iron guns, the trunnions are broken off; with brass ones, a fire is lighted under the chase, and when struck with heavy sledge while heated, the gun is bent and disabled.

Had time been allowed Colonel Anderson to destroy the cannon in Fort Moultrie before abandoning it, there can be little doubt, from his long experience as an artillery officer, that he would have left a legacy of crippled guns unfit for anything but the foundry.

NEWS SUMMARY.

DOINGS OF AGRICULTURAL SOCIETIES.

Wis. Mech. and Ag. Fair Postponed—Trial of Speed to be Made.—MILWAUKEE, Aug. 19th, 1862.—*To Exhibiters, and all whom it may concern:*—The Wisconsin Agricultural and Mechanical Association had made full arrangements for a grand *Fair, Horse Show* and *Trial of Speed*, on their grounds, at the Cold Spring Course, in Milwaukee, and had given extended notice of the same. Since the issuing of our notices for the Fair, the Government has claimed our well-furnished Fair Grounds for a Military Encampment, and military necessities at this time, being superior to all other claims, the Managers have yielded to the demands of the Goverment. The Grand Fair and Horse Show have, therefore, been postponed for one year, and the Trial of Speed for one week, or until September the 16th, 17th and 18th. Arrangements have been made by which the track will be reserved for the use of the Association on the days named.

At a meeting of Directors, held at the Wisconsin Life Insurance Office, Aug. 19th, the following preamble and resolutions were adopted:

Whereas, The grounds of the Wisconsin Agricultural and Mechanical Association, have been demanded for immediate use for Military purposes, thus rendering it impracticable to hold a Fair according to our advertised plans; therefore,

Resolved, That all of said Fair, except *Trial of Speed*, be postponed for one year, and that the *Trial of Speed* be postponed until the 16th, 17th and 18th days of September next. Said *Trial of Speed* is to include every such classes as are published in our Premium List, where "*speed alone is to be the test.*"

Resolved, That the publishers of newspapers be respectfully requested to give this notice in their respective papers, and the courtesy will be appreciated and reciprocated.

The Secretary is hereby directed to recall the notices previously issued and circulated as speedily as possible.

☞ Publishers of papers in this State are earnestly requested to comply with the request contained in the last resolution.

M. L. SKINNER, *Secretary*.

The Markets.—MILWAUKEE, Sept. 1.—Flour steady. Wheat firm and in good demand at 89@95¼. Receipts—400 bbls. flour, 6,760 bushels wheat. Shipments—1,900 bbls. flour, 57,000 bushels wheat. Freights higher; 9c on wheat to Buffalo.

CHICAGO, Aug. 30.—Flour—white winter, 6,00; spring extra, 4,75; fair spring extra, 4,85; winter superfine, 4,25.

Wheat—winter, 1,00@1,02; No. 2 red winter 95@96½; No. 1 spring 95c; No. 2 spring 80½@82½.

Oats, 34@35c; rye, 45@46; barley, 50@60.

NEW YORK, Sept. 1.—Flour receipts, 25,055 bbls. Market firmer with fair demand. Sales of 10,000 bbls. at 4,90@5,05 for superfine state; 5,15@5,30 for extra state; 4,90@5,05 for superfine western; 5,50@5,60 for common to good shipping brands extra round hoop Ohio.

Wheat receipts, 380,552 bushels. Market active and 1 cent better. Sales of 120,000 bushels at 1,18@1,22 for Chicago spring; 1,19@1,24 for Milwaukee club; 1,32@1,35 for amber Iowa.

STATE MATTERS.

Another Extra Session of the Legislature.—From the Proclamation below it will be seen that the Governor has called another extra session of the Legislature.

The precise character of the business which calls for this extra session does not appear, but it is evident to those in authority that the critical exigency in which our country is placed requires further action on the part of our Legislators.

One thing we hope the Governor will call the attention of members to, is the importance of giving practical utility to some law in regard to the performance of militia duty on the part of those enrolled for that purpose. It seems to us that it is highly necessary in view of the crisis in our country's fate, which now hangs as it were upon a hair, that every man in the State should familiarize himself with the common evolutions of the soldier.

With the militia of the loyal states enrolled and under proper drill, even if nothing more than in the marchings and facings, it would add material strength to the hands of the Government, and assure it that in future calls for troops, it would not have to rely entirely upon raw levies. Every true patriot capable of bearing arms, should feel it to be his duty to thus prepare himself for his country's service, and those who hesitate or decline to enter the ranks voluntarily should be compelled to do it by force of law. "Our country expects every man to do his duty!" and the Governor cannot do a wiser thing than to put every able bodied man in the State "on a war footing."

PROCLAMATION.

STATE OF WISCONSIN, EXECUTIVE OFFICE, MADISON, Aug. 29, 1862.

Business of great public importance, in my judgment rendering a special session of the Legislature necessary: Therefore,

In pursuance of the authority vested in me by the Constitution of the State, I do hereby call the Legislature of the State of Wisconsin to convene in special session, at Madison, on Wednesday, the 10th day of September, A. D. 1862, at 12 o'clock, M.

In testimony whereof, I have hereunto set my [Seal.] hand, and caused the Great Seal of the State to be affixed.

Done at Madison, this 29th day of August, 1862.

By the Governor: EDWARD SALOMON.

JAMES T. LEWIS, Secretary of State.

Time Extended for Volunteering.—In order to afford counties which have not filled their quota, further opportunity to do so, the Governor has issued a Proclamation, under authority of the Secretary of War, extending the time for enlisting in the *old regiments*, which will be found below. Persons desiring to enlist will find it much to their interests to join one of the old Regiments:

EXTENSION OF TIME FOR VOLUNTEERING IN THE OLD REGIMENTS.

EXECUTIVE OFFICE, Madison, Aug. 30, 1862.

By authority of the Secretary of War, I hereby give notice that volunteering for *old Regiments* will continue till September 15th.

Advance pay and bounty will be paid as before.

I earnestly urge all counties which have not filled their quota, including the special call for old Regiments, to do so at once by volunteering before the above date.

EDWARD SALOMON, Governor.

Thirty-Three Regiments.—The Governor has ascertained that enough men have volunteered to make up the 33d Regiment.—This Regiment is to be commanded by Col. James H. Howe, late Attorney General.

Four more Regiments will be necessary to make up the quota on the last call of 300,000, which number will be drafted from those in the State liable to do military duty.

Work in the State War Departments.—Any one who supposes that the Governor and Adjutant General of the State have little to do, would do well to look in upon them and see the crowd of persons waiting to have "their say." The busy time of last year is no comparison.

The New Regiments.—The new Volunteer regiments now forming will be paid the month's advance as soon as the muster rolls can be made ready after they come into camp. Paymasters Bridgman and Tenney are busy in the work, the first in paying off Col. Larrabee's Regiment, Milwaukee, and Col. Utley's at Racine, and the latter the 23d in Camp Randall and the 21st at Oshkosh.

To Look After the Indians.—Governor Salomon has appointed Capt. M. M. Samuels, an old Indian trader, to visit the Chippewa Indians in the northern part of this State, and ascertain the probabilities of an outbreak of that nation. Capt. S. is an old trader among the Chippewa's, and is a man of influence. No danger need be apprehended, we think, of an outbreak among any of the tribes in Wisconsin.

Returned.—Ex-Gov. Randall has returned from his mission to Rome, and is now in Washington City.

Recruiting for the old Regiments.—Recruiting for the old Regiments is progressing rapidly, and it is confidently hoped that the old Regiments will be filled without resorting to a draft.

20th Wis. Regiment.—This Regiment left Camp Randall on Saturday morning last for Camp Benton, Mo. It was full up to the maximum, and presented a fine appearance as it moved through our streets on the morning of its departure.

FOREIGN AFFAIRS.

The Crops and Markets in Europe.—The latest English journals are once more despondent and fearful concerning the crops, in consequence of another week of wet weather. Just one week previous to the dates before us, the same journals were jubilant over three or four days of sunshine. The *Mark Lane Express* of the 15th says: "The splendid weather "of last week has given place to a decided "change, there being many heavy showers "throughout the country, with Thursday unu-"sually rough. The accounts of the probable "yield continue very conflicting; but they are "not so as regards stocks, which, both in the "country and shipping ports are very low, "insomuch that any disaster could not fail to "send prices up smartly."

In France the weather is reported as having been on the whole favorable. Storms had prevailed in some places, but the damage done was trifling. In the Southern departments the harvest was over, and the crops well secured; while in the North of France they had commenced cutting under favorable circumstances. On the whole the reports of the yield are favorable to the opinion that a full average crop has been obtained. Owing to the light deliveries by the farmers during harvest time, the markets were bare, and prices were maintained. Old wheat is scarce and sellers offer to sell new wheat for forward delivery as a concession.

In Holland rapid progress was making in the harvest, and prices were tending downwards.

The Swiss markets for wheat were nearly all lower.

All over Germany the harvest was progressing favorably, but there were less hopeful accounts from Poland than formerly.

EDITORIAL MISCELLANY.

☞ All communications, of whatever kind, intended ☜ for the EDITOR *should be addressed to him exclusively;* all *remittances of money and* all *business* letters, *to the Publishers.* The offices are separate and distinct, and attention to this request will save the Editor a great deal of time and trouble, while at the same time, it will diminish the liability to mistakes.

The Editor's Absence.—This No. goes to press without the usual editorials of Dr. Hoyt. He returned to New York from Europe about the 12th of August.—Upon reaching that city he found letters from Virginia informing him of the serious accident to Mrs. Hoyt and started immediately for Harrisville, Virginia, since which time no communication has been received from him.

We trust that the Doctor will make amends for this omission, when he returns to his post, which will be as soon as Mrs. Hoyt's health will permit. He has undoubtedly much valuable information in store for the readers of the FARMER, which he has gleaned from his visit to England, Scotland, France, and Switzerland.

Accident to Mrs. Hoyt.—Dr. Hoyt, on his arrival at New York, wrote to a friend in this city, that he had letters from Harrisville, Virginia, giving him information of a serious accident to Mrs. Hoyt. Mrs. H. was visiting her sister in Virginia. Her brother-in-law was Colonel of a Virginia Regiment, and while his wife and Mrs. Hoyt were on a visit to him at the point where he was stationed, he made an excursion with a detachment of his command to conduct a party of rebels beyond his lines. Mrs. Hoyt accompanied the detachment and rode the Colonel's horse. While on the way they came upon a squad of rebel cavalry and charged upon them.

The Colonel's horse being excited by the chase, Mrs. Hoyt was unable to hold him, and he ran away with her, and threw her off. She struck upon her head injuring her skull severely, and so shocking her whole system that partial paralysis followed and for some time her life was despaired of. Dr. Hoyt was written to, and he returned immediately to this country, and repaired at once to Virginia.

The above facts were communicated in a letter from the Doctor written in New York, while on his way to Virginia early in August. Since which time nothing has been heard from him or Mrs. H.

Postponement.—The Illinois State Fair has been postponed to next year, for the same reasons which prompted the postponement of our State Agricultural Fair.

Trial of Speed.—The Agricultural and Mechanical Association of Milwaukee, having postponed their Fair till next year, and the Trial of Speed one week, are making great preparations for the latter event.

It will take place on the 16th, 17th, and 18th days of September.

Entrance Fees are ten per cent. on all premiums. Entrances will close at 9 o'clock on Monday. Exhibitors are requested to forward their entries, accompanied by the proper entrance fees to the Secretary at Milwaukee as early as possible.

Programme.—TUESDAY, Sept. 16—10 o'clock, A.M.—Free for all trotters. Premium $150. 12 M.—Free for all Trotting horses owned and kept in Wisconsin on the 1st day of June, 1862. Premium $100. 2 P. M.—Wisconsin Produce Stake for three-year-olds. Mile heats; $100 entrance; $50 forfeit. The Association to add $150 best, and $50 to the second best, provided there are three starts. 4 P.M.—Mares. Free for all running Mares. Premium $150.

WEDNESDAY, Sept. 17—10 A. M.—Breeder's Premium for three years and under four. Mile heats, to harness. Premium $50. 12 M.—Trotters. Mile heats, best three in five, to harness. Premium $100. 2. P. M.—Free for all Trotting Horses owned and kept in Wisconsin on the 1st day of June, 1862. Premium $75. 4 P. M.—Stallions. Free for all running Stallions; speed alone to be the test. Premium $200.

THURSDAY, Sept. 18—10 A. M.—Trotting Roadsters in double harness. Irrespective of size, color or sex; speed alone to be the test. First Premium $80; second do. $50. 12 M.—Horses two years old and under three. Free for all horses two years old and under three; speed alone to be the test. First Premium $100; second do. $50. 2 P. M.—Free for all Trotting Stallions, mile heats. First Premium $100; second do. $50. 4 P. M.—Free for all running Stallions, Mares or Geldings; mile heats. Premium $200.

For further information see the published rules.

NOTICES OF NEW ADVERTISEMENTS.

Evansville Academy.—A new advertisement of this popular institution of learning will be found in our advertising columns.

It will be noticed that this Academy embraces a Normal department, for the education of those who desire to qualify themselves as teachers. This is certainly a recommendation, for with an increased demand for female teachers to take the place of such of the male teachers as have gone to the war, it will be found difficult to find a supply of such as are qualified, by proper training, for the office of a teacher.

On this subject we cannot do better than quote the remarks of Rev. Mr. Pradt, Editor of the Educational Journal, in the June No. of that Magazine:

"We absolutely need, at this moment, at least a half dozen well appointed Normal Schools, and shall in no long time need more than this, to turn out yearly even

half as many teachers, as are required for the schools. This may sound extravagant, but it can easily be shown. Just now we wish to call renewed attention to a feasable plan for opening such schools without any serious delay. We mean the plan which has been not a little discussed in various quarters, of making some of our best Academies, at once and distinctively Normal Schools—or schools for teachers. Being at Evansville Seminary not long since we gathered some facts from Mr. Kilgore the Principal, which go to illustrate the feasibility of the change: Here, in pleasant and capacious grounds, is a substantial and convenient building of three stories, 40x70 in size, costing $8,000; a Library of 1,000 volumes; considerable apparatus; an attendance of 290 pupils the past year; 20 were reported in the last Normal class, and the number would have been much larger, but for the somewhat high standard for the examination for the first year's Normal course; 40 were in attendance, last term, designing to teach, and nearly all the teachers of the surrounding region, for some time past, have been pupils in the school, all of whom have succeeded reasonably well; from 100 to 150 pupils in the vicinity to draw from, to form a model school. All this indicates, that it only needs to declare any such school henceforth, distinctively and truly, a Normal School and to make the teaching subservient truly and properly to this great end, and the thing is done; while the institution would be none the less valuable, but more so, for those who wish a good disciplinary education, but who do not expect to teach."

Nursery Stock for Sale.—J. C. Plumb & Co., Madison, Wis., appear in our columns with their fall advertisement. The varieties which the above firm put forth, are well adapted to this latitude, and having taken pains to secure such as are reliable in the qualities of hardiness and productiveness, we think farmers and others who want good trees will do well to call and examine the stock offered by Plumb & Co.

Livingston Nurseries.—H. Southwick & Son, Dansville, Livingston Co. N. Y., will be found among our advertisers this month. An examination of their catalogue, shows that they have on sale all the most reliable standard sorts of fruit, which they are offering at reasonable prices. Send for a catalogue.

Agents Wanted in Wisconsin.—C. M. Saxton, Agricultural Book Publisher, No. 25, Park Row, N. Y., advertises for agents to engage in the sale of his Catalogue of Agricultural Books. There are those among us who are disabled from going to the war, but can perform a light labor, who will find it to their interests to examine the proposition of Mr. Saxton.

Stock Buck.—We call the attention of those who wish to improve their stock of sheep, to the advertisement of Mr. Jones in this month's Farmer.

Cook's Evaporator.—We last month omitted to call the attention to this article for sugar makers, which we much regret, as we are assured by those competent to judge, that they are the best evaporators extant. As the season is approaching for the grinding of the cane, we take pleasure in informing operators where this machine can be found. Call on D. J. Powers at the old Dane County Store, Madison, Wis.

STATEMENT

OF THE

Madison Mutual Insurance Company,

FOR THE YEAR ENDING

JANUARY 1st, 1862.

Made to the Governor of the State of Wisconsin, as required by the provisions of chapter 303, of the General Laws of 1858.

Total amount of accumulations,		$216,865 76
ASSETS:		
Premium notes of policy holders $180,124 63		
Cash on hand, and due from policy holders for cash premiums,	35,408 66	
Am't secured by mortgage and judgment,	332 47	
Office furniture and fixtures,	1,000 00	$216,865 76
Whole number of policies issued,		14,357
Am't of outstanding risks thereon,		$10,330,789 00
Reported losses awaiting further proof,		3,709 80
Losses recently reported,		3,433 89
Whole number of policies issued in 1861		5,778
Amount of outstanding risks thereon,		$5,315,173 00
Amount of premium notes thereon,		93,944 06
Amount of cash premiums thereon,		48,377 36
Total amount of losses reported during the year,		15,801 13
Total am't of losses paid during the year,		6,881 16
Amount settled by drafts and awaiting the call of the insured,		1,568 85
Amount of commissions paid to Agents,		7,460 84
Am't paid for Advertising,	$1,625 20	
Amount paid for printing,	811 00	
Amount paid for postage,	366 22	
Amount paid for office rent,	200 00	3,002 42
Expenses paid, including all compensation of officers and directors—stationery, extra clerk hire, fuel, lights, and all other incidental expenses,		6,069 56

STATE OF WISCONSIN, } ss.
DANE COUNTY,

We, the undersigned, being the President and a majority of the Directors of the "Madison Mutual Insurance Company," do solemnly swear, and each for himself saith, that the foregoing is a true and correct statement of the affairs of said company in the particulars therein named, as appears by the books of the company, according to the best of our knowledge and belief.

D. J. POWERS, President.
JOHN W. BOYD,
SAMUEL D. HASTINGS,
B. F. HOPKINS,
TIMOTHY BROWN,
ALBERT WOOD,
G. F. HASTINGS,
H. H. GILES,
SAM'L R. McCLELLAN,
G. R. MONTAGUE,
OREIN GUERNSEY,
LUTHER BASFORD,
DAVID ATWOOD,
D. WORTHINGTON.

Subscribed and sworn before me this sixth day of January, A. D. 1862. V. W. ROTH, Notary Public, Dane County.

THE WISCONSIN FARMER.

J. W. HOYT, : : : : : : : : : : EDITOR.

VOL. XIV. MADISON, OCTOBER 1, 1862. No. 10.

The Great International Exhibition.

No. I.

DEPARTMENT OF THE UNITED STATES.

When the World's Fair for 1862 was first talked of in America, some two years previous to the opening, it became at once the purpose of the friends of Industry, and of the enterprising men of the country generally, to make it an occasion for the signal triumph of American Genius. The Exhibition from the United States at the first great Fair in 1851—though it was, at first, despised and ridiculed by the English Press, and even made the occasion of great mortification to numerous unappreciative American citizens then in London—demonstrated the superiority of the American Mechanic Arts in some of the most important departments, and it would not answer to allow that reputation to be lost or even impaired. So universal was this feeling throughout the country, that but for subsequent and still continued national calamities, there would, undoubtedly, have been made such an exhibition at London the present year, as would have surprised the other nations and won for our industry unequal and unfading laurels. The large number of articles entered at the office of the Executive Committee of the American Board of Commissioners is evidence of this. But the War came, and the subsequent history of the Exhibition, so far as this country is concerned, is doubtless familiar to all who have been interested observers of the progress of events.

That the number of articles from the United States was small has already been stated. But it has also been stated that the character of articles on exhibition is such as to have done us great credit—seven-eights of all the articles having drawn prizes, as noticed in the August number.

But hitherto we have published no full account of the Exhibition. This is the object of the proposed series of papers, of which this present one is the first.

POSITION AND EXTENT OF THE U. S. COURT.

In the Exhibition Building—a general description of which was given in one of our hurried London letters—the U. S. Department occupied the southeast corner; the space thus alloted being some hundred feet in length by sixty in breadth—the machinery in operation being, however, over a quarter of a mile distant in another part of the building. But it should not be supposed that this little space was all that was required by American Exhibitors: it was all that the Commissioners had to give—owing to Mr. Seward's withdrawal of the U. S.—after having assigned the entire available space to other nations. Many articles were obliged to lie in their cases unpacked for want of room to display them, and not a few articles and machines of great value were properly excluded entirely, because of a want of compliance with the regulations on the part of the proprietors. These blunders ought not to be repeated, though, judging by the past it is probable they will be, since the Yankee—ahead in everything else—has thus far, at these great exhibitions, been behind nearly all his national competitors in getting his "traps" in place for inspection.

MINERAL PRODUCTS.

Proceeding in the order of classification, we have in the department of "Mining, Quarrying, Metallurgy, and Mineral Products:"

1. 1000 specimens of American Minerals. These are exhibited by J. W. Feuchtwanger, of New York. They embrace a large variety of some of the more interesting economic minerals, together with some that were attractive simply to the geologist or mineralogist. The collection was highly spoken of by the Press of London, and Mr. F. deserves much credit for his worthy effort to represent the mineral wealth of the country.

2. T. Meads, Esq., exhibits a small cabinet of minerals from Lake Superior; prominent among which are several good, though rather small, specimens of copper. It is a pity that an effort was not made by some party or parties to get out an extensive display of the magnificent products of these new mines. Next time it *must be done.*

3. The New Jersey Zinc Co., of Newark, N. J., display several interesting specimens of zinc ores, with their products. The mines thus represented are quite extensive, and the multiplicity of uses to which this metal is being applied gives to them an increasing value. The New Jersey Co. also exhibit specimens of pig and bar iron and excellent steel.

4. Mr. J. Mosheimer, of Nevada, has on exhibition a fine case of mineralogical specimens, consisting of gold, silver, quicksilver, copper ores, native sulphur and borax. And Dr. C. Precht, of San Francisco, shows sundry fine specimens of crystalized gold and California marble. These products of our Pacific coast attracted much attention, and inclined not a few foreigners to seek for additional information concerning the varied capabilities of that rich and beautiful land.

Under the circumstances of anticipated failure, the exhibition in this class may be set down as creditable, though it was certainly very far from being a fair representation of the vast mineral wealth of this country.

CHEMICAL SUBSTANCES AND PRODUCTS.

The show of articles in this class was very meagre; consisting of Crystal Carbon Oil for lamps, essences, &c. The petroleum products attracted much attention, and we heard bystanders giving each other most fabulous and absurd accounts of the exhaustless stores of this wonderful product of the earth—one sharp Yankee, with characteristic oriental eloquence making the gaping multitude believe that in the "vast empire of Ohio and Pennsylvania" there were "numerous perennial streams of this oil, each larger than the Thames!"

In the Pharmaceutical branch of this class, the Philadelphia College of Pharmacy shows a respectable collection of native roots and drugs—not in sufficient *quantity* to nauseate all Europe, or to adequately purge America of the Rebellion, but, as Mr. Parish would say, "sufficient to show."

SUBSTANCES USED AS FOOD, &C.

The display in this class embraced samples of cereals, clover and timothy seed by O. Howland, of Utica, N. Y.,—deficient in quantity and not extraordinary in variety and quality—samples of flour by Hicker Bros., New York City, and by Stebbins & Co., Rochester—the latter of very superior quality; samples of salt by the Onondaga Salt Co.; Indian corn in the ear—a few ears only and not superior at that, by J. Waddell, of Springfield, Ohio; and samples of excellent starch by the Glencove Starch Co., New York City.

WAGONS AND CARRIAGES.

The American phaeton and wagons exhibited by Brewster & Co., New York City, and the buggy and wagon spokes shown by Blanchard & Brown, Dayton, Ohio, were creditable in style and excellent in quality. They strikingly illustrate the marked characteristics of John Bull and Brother Jonathan—the English vehicles being generally very heavy and clumsy, while those of American manufacture are just heavy enough to be strong, without any waste of material.

SEWING MACHINES, &C.,

Of various patterns, occupy an important place in the U. S. Department of the Great Exhibition. At every hour of the day their musical click is heard and hundreds of curious spectators are crowding about them to witness their wonderful work. And well may they wonder and admire, for no invention of modern times—at least since the great application of

steam-power—has done so much to lighten the toil of the *better* portion of mankind. It is hardly necessary to say that the *American* machines are the best and have borne off the prizes. Everywhere in Europe they rank first, and in most of the large cities where we have traveled there are well established, thriving agencies for their sale. Wheeler & Wilson appear to have been particularly enterprising in this respect.

Medals were awarded to Wheeler & Wilson for their "Circular Ssewing Machine," and to the Howe Machine for "best collection." I. M. Singer receiving Honorable Mention for his collection, (not so extensive,) and Wilcox & Gibbs, New York, for improvements in construction. The above relates to machines for general use in sewing cloth and the thinner leather. But there are other and special sewing machines which deserve notice.

SHOES MADE IN TWENTY MINUTES.

One of these is a machine for sewing leather, soles of boots and shoes, &c., with a despatch never before dreamed of. We watched its operation several times, and cannot see why it must not work quite a revolution in boot and shoe manufacture. C. R. Goodwin, Boston, proprietor. Skillfully operated, it is capable of sewing together, all ready to the finisher's hand a pair of shoes in about twenty minutes! which is certainly ahead of the old-fashioned method, requiring several hours. There seems to be nothing wanting now, in this behalf, but another genuine Yankee who can invent a process for making the requisite *hides* without either expense or numerical limit. Who doubts that *he* will "turn up" one of these days?

It may also be mentioned in this place that W. D. Richards, of Boston, has on exhibition an ingenious machine for sole-cutting and heel-trimming of boots.

AGRICULTURAL MACHINERY AND IMPLEMENTS.

In this branch of the American Department, also, the number of articles is few. Many of them are of great value, however, and all are of a creditable character.

Of Reapers and Mowers there are five patterns, to-wit: W. A. Wood's "self-raking reaper, combined reaper and mower and grass-mowing machine;" Russel & Tremain's "reaping machine—a new mechanical device, (Fayetteville, N. Y.); Kirby & Osborne's "reaper and mower;" Redstone Bros. & Co.'s "mowing and reaping machine," (Indianapolis); and the well-known McCormick Reaper.

Wood's machine was set up in good shape, well shown and attracted considerable attention—a good harvester. in good repute in New York, Pennsylvania and Ohio. Kirby & Osborne, though one of the best machines with which we are acquainted, received comparatively little attention, owing to its not being put together. So far as advertising itself to the general public is concerned, it might just as well have been left at home. It nevertheless received "Honorable Mention."

The machines exhibited by Russel & Tremain, and by Redstone, Bros. & Co., are well made and appear to be well adapted to the proposed objects. We have never seen them operate in the field.

But, in the estimation of the visiting public, the McCormick Machine evidently ranks first. It was got up in splendid style, without reference to expense, and attracted crowds of people day after day. It has the prestige of name and European success, and so will continue to rank No. 1, even after better machines shall have been offered to the farmers of the old world. Since our leaving London it has been put to the test in the neighborhood of that city and seems to have nobly sustained the American credit, as will appear from the following extract taken from the *Mark Lane Express:*

Mr. McCormick, of Chicago, Illinois, has laid the world under new obligations. No one can pretend to be insensible to the economic benefits which have been conferred upon the farmers of this country by the introduction of the reaping machine, which was the wonder of the exhibition of 1851. Entrusted to the prudent and energetic agency of Messrs. Burgess and Key, it has played an important part in the salvation of our harvests, when otherwise they must have suffered to a considerable extent on account of the westward movement of our rural population. It was, in fact, the first machine in England which settled the question, in the farmer's eyes, between the mechanical and the manual process of corn cutting. When we say that from the Brentwood Works so many as 3,000 reapers have already been supplied to the farmers of the United Kingdom, and capable of cutting down from 12 to 15 acres a day, that hundreds of men are laying low the golden harvests, and conserving the fruit of man's toil in the fields of France, Russia, Spain, Germany, Italy and Belgium, and that, further, the inventor within the last 20 years has supplied—but without the screw-

platform, which is not required in that country—40,000 machines to secure the grain crops of the world's corn field of America, some slight idea will be gained of the benefits which may be conferred upon his fellow men by one persevering thinker.

We are not much in the habit, it is true, of considering ourselves under any obligation to those who are supposed to have made "a good thing" of their inventions. But inasmuch as inventors have been known to be actuated by high spirit and a desire to promote their country's progress, it may be that we shall come to look at these matters in a different light, and regard some of them as highly as those who, by virtue of large gifts, obtain exclusive possession of the cognomen "philanthropic." If it is true that we can never remunerate an inventor for his *idea*, because in its vast influence upon the world it is not possible to estimate its value, and that we can only remunerate him for his labor in perfecting the machine, and superintending the work of others in the reproduction of it, it is pretty clear that the world is laid under an obligation to the extent of the value of the *idea*, whatever that may be. We rise in the scale of civilization as we become masters of the circumstances in which we are placed, as we become superior to the elements around us. The machine of 1851 has enabled us to look the arduousness of the harvest in the face with comparative nonchalance; but the machine to which we are about to revert, and which occupies a place in the present International Exhibition, promises yet further to simplify the work of the harvest-field.

Very good for surly, self-conceited, John Bull. But the encomiums with which Mr. McCormick and his harvester have been favored, are not confined to this leading agricultural journal: the *London Times*—that miserable, unscrupulous, lying, anti-American sheet—is equally warm in its praise, and, for a wonder, fairly owns, that, in this particular thing of "shearing corn," Brother Jonathan is a little ahead!

FARMING IMPLEMENTS.

American harrows, too, are there—Mr. Orman Coe, of Port Washington, Wis., having, with commendable enterprise, sent over good specimens of his rotating harrow which has several times taken prizes at our State Fairs in the West.

Messrs. J. F. Daw & Co., Springfield, Ohio, are there with some excellent steel plows, though it is questionable whether the Old World will continue to acknowledge the superiority of the New in respect to this important implement. They were handsomely beaten over there by American plows in 1851, and it would hardly be fair to crowd them to the wall so soon again.

Our superior, and it would seem, inimitable hoes, forks, and rakes are also there, surprising and provoking multitudes of old fogy farmers, who are wont to insist that although admirable implements to hang up in an exhibition, they must be very unreliable if not utterly worthless for practical use in the field. They are beginning to be introduced, however, among the more liberal, sensible farmers of England, and are likely in the course of a few years to be in very considerable demand.

The Douglass Axe Co., Mass., make a fair display of American cutlery, axes, &c., some of which it would be especially well for the Old World manufacturer to imitate.

Among the other implements and machines for agricultural purposes may be named a model of corn and bean planter by D. R. Prindle, of East Bethany, N. Y.; a churn and mop, by R. Price, Albany, N. Y.; an earth and hay elevator, by Levi A. Beardsley, N. Y.; an automatic farm gate, and windmill water elevator, by Wentworth & Jarvis, Burlington, Iowa; and a cotton planter, by Blanchard & Brown, Dayton, O.

THE MILKING MACHINE

Shown by Messrs. Kershaw & Colvin, of Mass., arrived rather late in the progress of the Exhibition, but easily made up in novelty what it lacked in time, and probably received more attention than any one simple thing of practical utility in the Exhibition. "Where's that Yankee Milking Machine?" became a stereotyped question at the U. S. Office. Mr. Kershaw was there in person to exhibit it, and we never saw him without a crowd of curious auditors. To prove the practicality of the machine, he rented a stable on Cremwell Road, just opposite the Exhibition Palace, and at 11 o'clock of each day, (Sundays, perhaps, excepted,) may be seen, skillfully occupying himself with the pleasurable pastime of pumping the milk from either the regular *bossy* of the establishment, or from any other bovine milk-maker that may be produced. The machine consists, in brief, of a tin bucket closely covered—one half of the cover being movable upon hinges—four pliant, india-rubber sockets into which the teats are placed, and then certain tubes and valves operated by a couple of convenient lever handles, projecting themselves perpendicularly towards the milker. In the process of milking, the operator

sits down in the customary posture with the machine between his knees, puts the several teats in their places, and then by an easy lateral movement of the handles, in the same manner as a fire bellows is worked, extracts the milk. The cow appears to suffer less than when the teat is irregularly pressed by the bony fingers, as in the old manner, the milker does the work with much less effort, and the milk is kept free from the dirt which by the ordinary method is certain to find its way into the bucket.

John Bull thinks it an extravagantly funny Yankee *consarn* and "don't know but it may be a very good invention."

It will thus be seen that in the department of agricultural mechanics we have nothing to be ashamed of—or rather that we have much to be proud of. With the science and thorough system for which England and Belgium are noted, our agriculture may easily become *the best in the world.*

OTHER MACHINERY.

Under this general head reference should be made to the valuable flax and fibre dressing machinery exhibited by Sandford & Mallory, of New York city; an ingenious spacing and boring machine by P. H. Wemple, Albany, N. Y.; a self-registering dynamometer, by C. Near, New York City; a duplex steam pump, by R. H. Worthington, New York City; a stationary engine and governors, by C. T. Porter, N. Y. City; a centrifugal pump and oscillating engines, of good design, by W. D. Andrews; a stone breaking machine, by Blake Bros., New Haven. Conn.; a rope and cord machine, a gas regulator, and an "iron refrigerator," by G. H. Sanborn, Boston, Mass.; a belt-shifter, by J. C. Gove, Jamaica Plains, Mass.; pumps of ingenious design and splendid workmanship, by Mr. Hansbrow, of California; a pumping engine, by H. Steele, Jersey City; together with sundry models and machines that require more extended notice.

J. Ross' conical burr-stone mills attracted considerable attention, and won a medal for "good arrangement and practical success."

ERICSSON'S HOT AIR ENGINES.

Though not shown in operation, drew crowds of curious spectators, whose interest in it seemed to be increased not a little by the wonderful success of the inventor's famous ship "Monitor." It seems to be the general conviction of the mechanical world, however, that the hot-air engine, as at present constructed, must be confined in its use to machinery not requiring very great power. For operating printing presses. &c., it succeeds well in New York, and there is reason to hope that this eccentric genius will yet accomplish his object in bringing it into more general use as a substitute for the now more potent, but much more expensive steam engine. It will be remembered that the award of a medal by the committee was for "good design and practical utility."

A STEAM FIRE ENGINE

Of remarkable compactness of construction, lightness, and facility of use, shown by Messrs. Lee & Larned, of New York, was the finest thing, of its kind, on exhibition, and received the award of a medal for "ingenuity of design and good workmanship." The credit of first offering to the world the steam fire engine belongs to the United States, and it is but natural that we should be expected to continue to furnish the best models.

THE NEWSPAPER ADRESSING MACHINE

Of S. Sweet, New York, to which a medal was awarded, is also deserving of special notice. There is, perhaps, nothing in the printing arrangement itself, that entitled it to rank before other machines of the same class, but that part of it by means of which the type are made is highly interesting, and so far as we know quite new. The type used are of wood, each little block having the address stamped upon it by steel dies conveniently arranged and easily brought to bear by a simple contrivance operated by the foot of the type-maker. When printed, the letters are white in black, as seen on the New York Tribune, and some other papers.

SIGNAL TELEGRAPHS.

W. H. Ward, of Auburn, N. Y., it will be found on referring to the list of awards in the August No., received a medal for day and night signal telegraphs. The contrivance is an ingenious one, and must come into general use. It consists of some four or five lanterns with different colored glass, supported upon a frame, to be erected on the top of a house, fort, or any eminence sufficiently high to enable them to be seen by the party in communication.—These lanterns are easily and quickly drawn up by the operator, by means of cords and pulleys, and are made to spell out the dispatch by certain combinations agreed upon by the parties in communication, or fixed and determined as the signal alphabet. For example, each separate color may represent a certain letter; red being "A;" blue, "B;" green, "C;" yellow, "D;" and so on to the full number of lanterns that may be conveniently used. After this, the remaining letters will be represented by combinations of the simple lights; as, for example, "E" by red and white shown together; "F" by red and blue; "G" by red and green, and so ot to the end of the alphabet.

[TO BE CONTINUED.]

October and its Work.

October has come again—glorious month of "bursting barns and granaries, of falling leaves and fruit."

> "Oh who would miss it? or forgot
> The suns that rise, the suns that set;
> The rustle of the crimsoning leaf;
> The gush and murmur of the stream;
> The thoughts we think, the dreams we dream,
> Those south-wind days—so bright, so brief—
> Where, many-hued on wood and sky,
> And many-voiced to ear and eye,
> October shifts the scene!"

Distinguished in all the years, it will in this year of our Lord have a new mark put upon it and be known in all time as *the October of* 1862. Why? Because in this month there will be in the field the largest army the world has witnessed since the days of Xerxes, as also, without doubt, the most stupendous, fierce, and bloody battles. Nor is it improbable that it may hereafter be distinguished as the month wherein the monster rebellion received the fatal blow, and for the first time became conscious of the utter futility of its damnable treason.

This year, as never before, the crimsoned falling leaf will remind us of our falling hero soldiers on the field of Mars. Well, let us not despond. The integrity of our country is worth an immense sacrifice of treasuse and blood, and they who fall in its defence will meet the martyr's reward, and evermore enjoy the gratitude of succeeding generations. There is a sense in which none who offer themselves upon their country's altar die in vain.

One of the duties of this month is to see that nothing be omitted which may either add to the strength and efficiency of the Army of the Union or contribute to the comfort of those who have gone, or are going, forth to fight our battles.

But the farmer who remains at home will find no time to waste in dreaming over the probabilities of success or the possibilities of failure. There is one thing that must *on no account fail*—the farmer's industry and thrift. Remember the sermon we preached on "The Sinews of War," at the commencement of this great national struggle. If it was true then, it is doubly true now. Industry supplies the sinews of war, and it is this upon which, in good part, we must depend for the ultimate triumph of the sacred cause of the Union. It is well to trust in Providence, but it is equally important to "keep our powder dry." We repeat it, the farmer must not for a moment forget that he, in common with his neighbor, brother, or son, on the field of carnage, is contending for the Life of the Republic.

A few hints, then, as of old, concerning some of the more important practical operations of the farm, orchard, and garden.

THE FARM.

The grass and small-grain crops having been secured, the principal regular business of the farm will consist in gathering the corn, cane, potato and the root crops, and preparing for the protection and feeding of farm stock.

Threshing.—No thrifty farmer needs even a hint on this subject. If not yet done and it is intended to be done in the field, there is no more favorable month than October in which

to do it. But for those who keep a good deal of stock and have not a superabundance of hay in store, we would again recommend threshing in the barn as the straw may be needed during the winter. In this way it can be done incidentally and with almost no expense, and the straw will be very much better for fodder.

Husking Corn.—Try to have it all done before the coming of cold and stormy weather. Gather in as fast as husked and store in a dry but well ventilated, rat-proof crib. Select the best ears while gathering, and leave a portion of the husk on, for convenient traceing, and at once hang up in some dry and airy loft, for seed. Some trouble, but *sure to pay*. As to *mode* of husking and gathering every farmer will have his own way. The most slovenly and unprofitable way, particularly in uncertain weather, is to throw the corn in small, scattering heaps upon the ground. Those who crave discomfort in picking up, and loss from soaking and consequent rotting, will continue to practise *this* method.

The Potato Crop.—We have not yet been long enough in America to ascertain whether the crop of this year is likely to turn out well, or whether the rot has seriously attacked it. In any event it is perfectly safe to dig and secure as soon as ripe, and while the bright sunny weather of the present month renders the labor comparatively comfortable and easy. Digging by hand is a hard, back-breaking operation, even where there are no weeds and burs—as there never should be—to impede the work and vex the flesh of the digger. At least, so it seemed to us when we were a farmer boy with labor-saving inclinations—afterwards indulged, when we dug potatoes on our own hook.

But there is no need of breaking the back. If planted in drills, according to the more common custom of modern times, they can be turned out, with a suitable digger, in one continuous stream, by horse power, and almost without the loss of a dozen potatoes to the acre. Even an ordinary shovel or light corn-plow may be used with advantage, if no digger can be conveniently oblained. But the digging and gathering should be done, if possible, in dry weather, as the potatoes will be less liable to rot. If buried in the field, the heap should be put upon a dry and elevated place so that water may not settle in it after long rains. The potatoes would keep better, if the heap were properly ventilated at the top, so that the superfluous moisture and heated air might escape. In order to this it is not necessary that the potatoes be exposed to the frost—simply that there be left an opening through the earth at the top with some adequate protection from falling rain and snow.

The Root Crops generally require for their preservation caution similar to that recommended above. Save them the best you can, and so spare the more saleable grain that otherwise would be consumed.

Draining.—There will be no better time for this impartant work than the present month. Let every farmer do as much of it as possible. The hardness of the times and the distractions of the war must not not unduly interpose or prevent. The harder the times, the greater the need of economy; anything that *pays* is economy, and draining assuredly pays.

Barns, Stables, and Out-Buildings.—If you really need them, and can possibly squeeze out the means, now is the time to build. At all events it should not be omitted to put up something that will better protect the stock which too many farmers have been accustomed to leave exposed to the wintry storms of the open field. Straw covers on crotches, if you can't do better. The cattle will thank you in December for even these.

THE ORCHARD.

In some of the Eastern and Middle States where we have recently traveled, many of the old orchards that were fabulously fruitful in our boyhood days are dying out and failing to fruit, owing to neglect to properly prune and cultivate. Some of them have grown grass for forty years without change, and the stinted supply of small, gnurly fruit is a just return for so unwise a policy. In Wisconsin it is hardly supposable that there are many, if indeed any, orchards of this description. Still

there may be, here and there, a "turf-bound" orchard; in which case we can do nothing better than to recommend a breaking up of the surface, and planting in spring to some hoed crop. If the trees are stinted, slow of growth, meagre in their supply of fruit, and infested with lice and other vermin, manure well with barnyard manure, lime and ashes, previous to plowing.

As to the time of planting, many prefer spring, but hardy apples and pears may be planted in the fall, and, in either case, *now* is the time to look up and engage your trees.—Fruit was the first, and is the most delicious, wholesome food of man. Don't neglect to provide yourselves with abundance of it.

Apples for winter should be allowed to remain on the trees until danger of frost; then carefully pick in the midst of warm, fair weather—preferring the middle of the day—and put up in a dry, cool, and secure place. If you have extra fruit—apples or pears—of which you wish to take extraordinary care, so put up that they shall not lie in contact.

Cider-making is not much of a business in our young State. Still there is something of it done, and our readers will not object to a suggestion or two from one who has made thousands of barrels, in former days, in the great fruit-growing, Buckeye State.

1. The better the fruit, the better the cider, of course. But you should not, on this account, scorn the bruised, sunburnt, or even decaying fruit. We have scarcely ever drank better cider than we have made from apples in the first stage of decay.

2. Take especial pains to have the mill in all its parts and everything about it perfectly sweet and clean. In order to this the grinding machines, vats, and press should be thoroughly purified at every making with hot water and ashes. A few buckets full, with a hearty use of a clean scrubbing broom and subsequent washing with pure cold water will accomplish this in a very little time, and to an incredible extent improve the quality of the product.

3. Put up in sweet casks. This must, on no account, be omitted. If intended for keeping through the winter, make late in the autumn and put into each cask a small quantity of Sulphite of Lime, [the same that is used for cleansing Sorghum syrup,] allow to stand until a slight fermentation has taken place, and then rack off into another cask and bung up tight, or cork up in bottles. Some use sulphur, charcoal, or mustard to prevent souring.

THE GARDEN

Will likewise claim your attention this month. The squashes, beets, cabbages, &c., &c., must all be gathered before frost. In the past we have seen wagon loads of splendid squashes rotting in the field or barn because they had been left out too long. Don't practise that particular folly this time. "*A stitch in time* saves nine." Having gathered and properly put up the garden crops, clean off the ground—saving the tops of such as are edible for fodder—and thoroughly break up the soil, for the better action of the weather during winter.

Effect of Depth of Soil on Vegetation.

The deeper a soil is, or can be made by good tillage, provided it contains the elements of fertility, the more productive it must become; not only by causing a large supply of actual food, but also by presenting an increased surface for the action of chemical forces to retain those valuable substances, which being in solution, would otherwise pass away in the subsoil, while though they might be retained, the roots could not get at them. The atmosphere penetrates more freely, warming and exciting the whole mass; the roots, instead of throwing out laterally, and creeping along just beneath the surface, as in shallow soils, push boldly out in all directions, in search of food, and thus strengthen the plant. The alluvial tracts so frequently found along our principal rivers, are all deep and very fertile; though generally dry, they seldom suffer from drought, owing to their powers of absorption, got from the air and subsoil.

Depth being so important, we should do all in our power to increase it by artificial means when required; as frequent plowing at a uniform depth produces even in the deepest soils a hard bed, through which neither roots, air, nor moisture can readily penetrate; the use of the subsoil plow, once in three or four years, is strongly recommended. When the subsoil consists in stiff yellow clay, care must be taken not to bring up too much at once; for else, being sometimes of a poisonous nature, it might tend to injure the land for some length of time,

until in fact, the oxygen of the air had affected the necessary chemical changes and sweetened the mass. Deep soils are much less injured by sudden changes of weather than shallow ones, for being open and friable, the rain-fall passes slowly through them, and after nourishing vegetation, by the moisture and ammonia that it leaves, disappears in the subsoil; and during a dry time, they maintain their moisture, owing to their powers of absorption and capillary attraction. Many of the most fertile loam resting upon a gravelly and very porous subsoil, owe their fertility to their depth.

The same rule holds good with soils resting on limestone; they are rich or poor, according to depth. Therefore it is evident in farming, besides the mere routine of prepairing the ground for the crop, we have the important business of deepening the ground to attend to. Draining, in all cases where the land requires it, will be found a most important assistant, lowering the water level to the bottom of the drains some three or four feet from the surface, enabling the atmosphere—that great fertilizer—to penetrate into the crevices, formerly filled with excess of moisture, and by diminishing the tenacity, lessening the difficulties, of deep cultivation.—*J. Coleman's Prize Essay, (Eng.)*

Approaching Decay.

The hemlock broods above its rill,
Its cone-like foliage darker still,
While the white birch's graceful stem
And the rough walnut receive
The sun upon their crowded leaves,
Each colored like a topaz gem;
And the tall maple wears with them
The coronal which autumn gives,
The brief, bright sight of ruin near,
The hectic of the dying year. [WHITTIER.

Yield of Grain in England.

The *Mark Lane Express* gives a table comprising the average yield per acre, of wheat, barley, oats, beans, and peas, for thirty-eight counties, in England, prepared from returns received from correspondents of that paper.—The average of the cereal grains mentioned are as follows:

Wheat,	29 bushels.
Barley,	37¾ "
Oats,	46½ "

The lowest average of wheat in any county returned. is 22¾ bushels per acre, in Devonshire, and the highest 34¼ bushels in Lancashire. The lowest average of barley is 29 bushels per acre, in Shropshire, and the highest 44 bushels, in Northampton. The lowest average of oats is 34¾ bushels in West-moreland, and the highest 50¼ in Cambridgeshire.

The beans mentioned are a kind not much cultivated in this country, The average yield is 32¼ bushels per acre. The average yield of peas is 30 bushels per acre.

Save your Fodder.

On our way through the State, recently, we observed considerable quantities of grass drying up and practically going to waste. Most of it was in irregular patches, here and there, along crooked streams, and in other rather uncultivated places, to be sure, but it was not the less valuable on that account, and if cut at once and properly cured, would fill the mouths of many grateful hungry cattle the coming winter, and, furthermore—save us the trouble of scolding so much in the spring about long-haired, lean, forlorn, and half-famished cattle and horses. "*A penny saved is a penny earned.*"

Pasturing Mowing Lands in Autumn.

John Johnston, who is good authority on all matters relating to practical farming, writes to the Boston *Cultivator* as follows: "I think it bad policy to pasture meadows—mowing ground—in autumn or spring. We can get here, double the quantity of hay, if the meadow is not pastured, and therefore we only require half the land to get the given quantity of hay from, and the other half can be appropriated to something else." This agrees with the opinion we have always had upon the subject, but a correspondent of the *Valley Farmer* gives reasons for an opposite course. He says:

"My experience is that pasturing meadows of any kind in the fall season of the year, is a decided advantage to them, provided they are not pastured too much, and for the following reasons: If a meadow is left to stand after harvest without pasturing in the months of August and September, if there be any fall rains, the wild grasses and weeds will spring up, and as they grow much taller than the fall growth of timothy or blue grass, they seem to choke out the fall growth of the young grass; and if the weeds and wild grasses are allowed to remain all winter and spring they will be materially in the way the following harvest.—I have had ample experience to prove this in our rich bottom lands. My opinion is, that meadows should be pastured after harvest, say in the months of September and October, sufficiently to keep down the weeds and wild grasses. I have noticed, particularly in our bottom meadows, where a partition fence ran through the meadow and where one side was pastured regularly every fall season, and on the other side, being a corn field, or in some way not admitting pasture by stock, that while the side of the meadow regularly pastured every fall would keep a good set, the other side, not being pastured, would in a few years be taken with wild weeds and become worthless, unless broken up and newly set."—*Maine Farmer.*

Royal Agricultural Society of England.

THE INTERNATIONAL SHOW IN BATTERSEA PARK.

LONDON, JULY 16, 1862.—A long acquaintance by exchange of Transactions with the R. A. S. having led to a strong desire to witness one of its grand exhibitions, we gladly availed ourself of the courtesy of the Hon. Secretary, Mr. Dare, and during the recent Show in Battersea Park, spent as much time as we could spare in inspecting the splendid array of stock, implements, and machinery there displayed. In a brief letter, written after the first hasty glance, it may be remembered that we stated our conviction that England had never seen anything equal to it before, but deferred all details until another time. That time has come; and although circumstances will not now warrant a very extended account, we cannot forbear some sort of a report upon, at least, one or two branches.

THE LIVE STOCK

Was not confined to the British Islands, as we at first supposed, but likewise included animals of the various classes from most other European countries, particularly France, Switzerland, and Germany. The number of exhibitors in this department was between six and seven hundred, many of them making exhibition of 15 to 25 animals. In number, therefore, it exceeded all exhibitions of which we have knowledge.

Battersea Park lies immediately upon the Thames, south tide, but is easily accessible, and well adapted to this purpose. The exhibition structures consisted of simple sheds, wide enough for two tiers of animals head to head, and were covered with canvas. They were arranged in straight lines across the entire grounds, with avenues between, and the animals were so classified that all of one genus, race, and breed were found together.

THE HORSES

Embraced a number of breeds, and altogether, made a very fine show, though we are informed that the display in this particular department has been excelled.

Under the head of "Thoroughbred stud horses, best calculated to improve and perpetuate the breed of the sound and stout Thoroughbred Horse for General Stud Purposes," there were 11 entries—Prizes, £100 and £25. They were nearly all fine representatives, of this class—some of them perfectly splendid.

The "Hunters"—thorough or half-bred stallions—were 11 in number. Prizes, £30 and £15. Quality, good. Hunter Brood Mares, "with foals at foot, or in-foal." Entries, 4. Prizes £20 and £10.

Hunter "Geldings, Four or Five Years old." Prizes, £20 and £10. No. entries, 16.—"Hunter Mares, Four or Five Years old," 2, Prizes £20 and £10.

"Carriage Horses."—No. entries, 12. Prizes £20 and £10.

"Roadsters," in two classes, 16; stallions, 12; Brood mares, 4.

"Suffolk Agricultural Horses," in 4 classes. No. entries 59; Stallions foaled on or before January 1st, 1860, 18; Stallions foaled in year 1860, 13: Mares and Foals, 14; Two-year-old Fillies, 14: Prizes offered, £20 and £10, in each class.

"Agricultural Horses not qualified to compete as Suffolks, (in 4 classes); whole No. entries 40; Stallions foaled on or before 1860, 17; Stallions foaled in 1860, 11; Mares and Foals, 7; Two-year-old Fillies, 5. Prizas, same as for Suffolks.

"Dray Horses," (in 4 classes, same as above). First prizes, £30, £20, £20, and £15. Second prizes, £10.

"Ponies." No. entries of Ponies above 11½ and under 14 hands, (in 3 classes—Stallions, Mares, Geldings,) 31. Prizes in the 3 classes, £15 aud £5, £10 and £5, and £10. Entries of Ponies not exceeding 12½ hands, 27.—Classification and prizes same as preceding. Many of the ponies for beauty and good training excelled any that we had ever before seen. They are an important class of horses in England, being much used for the education of children in horsemanship, as well as for drawing light, low-wheeled phaetons, and other carriages.

Clydesdale Horses.—This is the name given to a race of very heavy and powerful draft

horses peculiar to Scotland. Some of them look as strong as elephants and weigh over a ton. "Champion," a splendid bay stallion, 6 years old, exhibited by William Kerr, of Lochend, weighed 23 cwt., or twenty-five hundred and seventy-six pounds. The prizes offered for animals embraced under the head of Clydesdale—Stallions foaled before Jan. 1st, 1859; entire Colts; Mares with foal at foot; Mares in foal; Fillies—were offered by the "Highland Agricultural Society of Scotland." No. entries, 26.

There were likewise two entries of "Heavy Draft Horses" by Desvaux Roze, of Courville, Department of Eure and Loir, France. They were of the pure "Percheroune" breed, and fine animals.

CATTLE.

The *Short-Horns* were as fine a lot of animals as were ever seen together—250 in number, arranged in 8 classes, to-wit:—"Bulls calved on or before July 1st, 1859, above 3 and under 6 years;" "Bulls calved since July 1st, 1859, above 2 and under 3 years;" "Bulls calved since July 1st, 1860, above 1 and under 2 years;" "Bull calves above 6 and under 12 months old;" "Cows above 3 years old;" "Heifers In-Milk or In-Calf, under 3 years;" "Yearling Heifers;" "Heifer Calves, above 6 and under 12 months." Three prizes were offered in each class; those for the older male animals being £30, £15, and £5; those for the older females £25, £10, and £5; for calves same as above.

The *Herefords* were scarcely less attractive. No. entries, 126. Classification and prizes same as for Short-Horns.

Devons to the number of 65 made a splendid show, and afforded the somewhat partial eye of the writer great gratification. Classification and prizes same as for Short-Horns.

Sussex Cattle.—This is a breed of which comparatively little is known in the United States. A little larger than the Devon, yet characterized by the activity, sprightliness of disposition, and beautiful color of that breed, and possessed of the fattening qualities of the Hereford, as is claimed by many English farmers and writers, it is rather a matter of surprise that more attention is not given to their importation into other countries. It is generally admitted, however, that the cows yield an inferior quantity of milk, and are unquiet in disposition; on which account they are chiefly raised for breeding or fattening. Twenty-nine animals of this breed were exhibited, in five different classes. Prizes £15, and £5.

Long-Horned Cattle.—Sixteen animals were exhibited under the above designation. They differed in appearance from any breed we have ever seen before, and attracted the attention of foreigners generally. They are said to have come originally from Craven, in Yorkshire, whence they spread into various other counties of England. Bakewell, Cauley, and other distinguished breeders, after a series of years bred them out of their objectionable length of body and coarseness, but they are still considered an inferior race, and are chiefly raised by old fogy breeders in the north of England, who shut their eyes to the superior qualities of the more popular breeds. They are varied in color—though usually with a light streak along the back (*finch-backed*)—and have widespreading, long, slender, horns, often measuring over three feet.

Norfolk and Suffolk Polled Cattle.—Of these there were 26 on exhibition—many of them very superior. Characteristic color, mouse or pale red.

Welch Cattle were very few in number, there being but two on exhibition from North Wales, and nine from South Wales. The North Wales cows were of the Anglesan stock—small and black, with heavy shoulders, large dewlap, long, spreading horns, and coarse hair. The cattle exhibited under the title of "North Wales" were chiefly from Pembrokeshire.—They are usually black, with white horns, and have short legs, and deep, round carcases; poor milkers, but easily fattened and able to thrive on the poor pastures of Wales, where other cattle would starve.

The Irish or Alderney Cattle on exhibition were fine representatives of that breed. No. of entries 20; the classification as follows:—

"Bulls calved on or before July 1st, 1855, under 4 years;" prize, £20; "Bulls calved since July 1st, 1859, and more than 1 year old;" prize, £10. "Cows above 3 years old;" prize £10; "Heifers in milk, or in calf, under 3 years;" prizes £10 and £5.

The "Guernseys"—which differ from the Alderneys principally in their slightly larger size, owing to the better quality of the pastures of the island of Guernsey—numbered 11. They were fine animals, and well sustained the growing reputation of this breed for milking purposes. Prizes, as above.

Polled Aberdeen and Angus.—These and the Galloways are the originals whence sprang the Norfolk and Suffolk polled cattle already referred to. Those exhibited were good specimens—the most of them black. They are a quiet, pleasant breed of cattle, and possess excellent fattening qualities. Formerly they were quite as noted for milking properties. Their docility highly recommends them and they seem to be growing in popularity. A considerable number may always be found in the great London markets. No entries, 17.

The "Galloways" were also there—black, also, but shorter in the leg, rounder in the ribs, thicker in the shoulder, and broader in the loin than the Angus. The skin and hair are softer, moreover. No. entries, 20.

Highland Cattle.—These, as the name indicates, are another breed of Scotch cattle.—Most of them closely resemble the Galloways, except that they have long, up-turned horns, and a shaggy coat of hair. Their compact carcass, and superior quality of beef, render them favorites with the butcher; while their ability to live, thrive, and easily fatten on the poor, coarse herbage of the Highland pastures, makes them equally desirable with the farmers of that country. Their milking properties are not very good. Number on exhibition, 27.

The Ayrshires were present in large number; 69 fine specimens very creditably representing that excellent breed. We have repeatedly spoken of them in the *Farmer* as the best milch cows in the world, and will not dwell on their superior qualities in this connection. It is our purpose to travel somewhat in the county of Ayrshire on our way back to the United States, and we may consequently have something more to say of the "Ayrshires" in the account which we propose to give of our travels.

Among the cattle from foreign countries, we noticed Charolaise, Garonaise, Normandy, Brittany, and Pyrenean bulls and cows, from France, 48 in number; Dutch cows, and Flemish and Swiss bulls and cows, 60.

The Breton cattle are a great novelty, and attracted much attention. Many of the full grown cows were not over three feet high and yet are said to yield very respectable quantities of excellent milk. They are generally black and white, only one animal of the 34 on exhibition being of any other color; she was white and roan, They seemed remarkably docile in disposition, and if half as valuable as represented, must be very desirable creatures for gentlemen's lawns and small suburban farms. Our friend Flint, of Boston, talks of taking a pair of them home with him.—Hope he will.

The Swiss Cattle numbered 50, and were most of them as fine specimens as we have ever seen. In making the entries they are usually put down as "white and black," but their real appearance will not be understood from this description, unless it be stated that the black and white hairs are generally so intermixed as to produce no distinct lines of demarkation—nothing like *spots*. In the head, neck, shoulders, and fore legs, there is a predominance of black. Brownish, reddish brown, or dun brown would more correctly describe them. To our eyes they are beautiful animals, and having tested the quality of their milk in their native country, we are prepared to give it a high endorsement. The cows fatten readily, moreover, and make an excellent quality of beef.

SHEEP.

This department of the Royal Exhibition was not less interesting than those just described. Whole number of entries, 713—including Leicesters, Lincolns, Cotswolds, Kentish or Romney Marsh, Long-Wooled, Irish,

Southdowns, Shropshires, Hampshire and West Country Downs, Dorset sheep, Mountain sheep, Black faced sheep, Cheviots, French and Spanish Merinos, Saxony Merino, Foreign Long Wools, Foreign Short Wools, and various mixed breeds. Prizes, £15, £10, and £5.

Mentioned in the orderof the number of animals on exhibition, a few of the most favorite breeds rank as follows: South Downs 96; Shropshires, 95; Cotswolds, 90; Leicesters, 72; Oxfordshire Downs, 61; Hampshire Downs, 45; Blackfaced Sheep, 44. It is not always the case that superiority of numbers is a fair indication of the esteem in which different races of animals are held, but in this instance we are inclined to think it was.

The Down is certainly the favorite sheep of England; being preferred before all others for mutton and yielding a large quantity of excellent short, or "middle," wool. Youatt, if we remember correctly, claims that the South-Down alone yields nearly seven tenths of all the short wool grown in the United Kingdom. Some changes have probably taken place since the date of his estimate, but the South-Down still evidently ranks No. 1.

The Merinoes are not in high favor; chiefly, we suppose, because the English people delight in good mutton and prefer strong, heavy cloths to light and fine. The French like a finer and lighter cloth, and hence prefer the Merinoes. In this the French and Americans think alike.

The Black-faced Sheep is a singular looking animal in the countenance, but has many excellent qualities. Wool fair as to quality and quantity; mutton good. Hardy and well adapted to the cold climate of Scotland where they are native.

SWINE

Were also well represented; there being 192 entries, many of them pens of 3 or more. The prizes were £10 and £5. The classification was based simply upon size and color; as, for example into "Boars of a Small White Breed," "Boars of the Berkshire Breed," "Boars of a Large Breed of any Color," and so on. It was impossible to judge from the numbers in the several classes, whether the large or the small size is decidedly in favor, though the advantage seemed to be in favor of the smaller, white breeds.

MACHINERY AND IMPLEMENTS.

This department of the Royal Show also far exceeded anything that we had ever before had the pleasure of seeing at any State or National Exhibition. The exhibition halls were canvas-covered sheds of the character before described; under which were arrayed immense quantities of implements and small machines of every variety and conceivable form. The heavier machinery requiring motive power for its exhibition, was shown in another part of the Grounds within a separate inclosure.—

Among the miner implements of agriculture we were both surprised and gratified to find a collection of *American forks and hoes!* The exhibitor was a sensible English dealer, who, discovering the superiority of this class of American implements as compared with articles of the same description manufactured in his own country, has for years been importing and selling them to his customers. On being asked why English manufactures did not make them, he replied, "We can't do it. Have been trying ever since the Great Exhibition of 1851, but somehow don't succeed. It's a mortifying admission to make, but it is nevertheless true that you Yankees have a knack of doing some things which we have not the skill to imitate." The plows were most of them made of iron and steel, and were much heavier and clumsier than ours. It is apparent, however, that in respect to this particular class of implements, as well as several others, the lesson of 1851 has not been entirely lost upon proud and stubborn John Bull.

THE SHOW OF GRAINS

And other agricultural products was not so great as that in the preceding departments, but creditable as a representative exhibition. The Highland and Agricultural Society, Scotland, made a fine show of seeds of almost every variety known to the agriculture of the United Kingdom.

[THE GREAT TRIAL OF STEAM PLOWS will be described in the November number.]

Working Up Sugar Cane.

In a circular by Blymyers, Bates & Day, we find some hints on working up sugar cane which will be found useful to those engaged in the business, and from which we compile the following:

Harvesting.—The cane should be cut no faster than it is manufactured, the freshly cut making the best syrup. Begin as soon as the seed has partially passed into the dough state, or, if the crop is large, as soon as it begins to brown. Blade the stalks and cut off about three feet of the top.

Should frost threaten, cut up the crop and put it into shelter, covering it with straw or hay. Ripe cane can be kept some time in this way, but green cane will mould; it should be put under cover, but have plenty of air.

Manufacturing.—Every thing required for manufacturing should be in perfect readiness.

A good iron mill of *more* than ample capacity for the work expected of it. This is necessary to make up for any unexpected delays.

The most rapid evaporator you can secure.

Some shallow wooden cooler, about three by six feet, and ten inches in depth.

Clean, new barrels. Many a lot of syrup is spoiled by barreling in old filthy barrels.

Good dry wood, such as is calculated to make a light, quick blaze.

Draining vessels for the reception of the cool syrup. We suggest that they be made with inclined sides.

Setting the Machinery.—If a bank is convenient, place the mill upon it and the evaporator below, with a pipe to conduct the juice from the mill to the juice tank above the evaporator.

The coolers should be sheltered from the sun and heat.

Directions for using Cook's Evaporator.—Place the Evaporator on a firm, level foundation, *well sheltered from the wind.* This will often make a difference of 100 per cent. in its speed, and secures a more thorough defecation.

Keep the Fire as Hot as Possible.—Loosen the substance deposited on the bottom of the pan, several times a day, with a stiff broom, that it may rise with the scum and be removed.

Skim Faithfully.—Impurities must not be allowed to remain in the syrup.

Do not allow the furnace, back of the gate, to become choked with coals or ashes.

For Sugar.—The syrup should be well defecated and reduced to a waxy consistency, or as indicated by a thermometer to 240° Fahrenheit.

But the eye is the best test. Let some syrup drip from a paddle; if the thread which is left rises towards the paddle in the form of a hook or cork-screw; or if the syrup when dripped into a saucer will lie in folds, so that the outlines of several may be seen at one time, the right stage has been reached.

When cooled transfer it from the coolers to the draining vessel and let it stand until crystalized.

Frequent stirring during the process of cooling and crystalizing is of great benefit.

If it does not drain thoroughly after opening the slide, and this in the south requires several weeks, start in the drainage by covering with a cloth, kept wet a day or two.

The southern planter often starts the crystalization, when slow, by throwing in a little old sugar.

Difficulties.—Many find it difficult to make sugar. This is not to be wondered at. It is a new enterprise. Still greater difficulty was found in the south, and many years elapsed before success crowned their efforts.

1st. Too long an exposure of the juice before evaporation, by which it becomes soured.

2d. Want of care in reducing to the proper point of crystalization. Some make it too thick, more too thin.

3d. Insufficient skimming.

4th. Improper care of the syrup. It is usually put immediately into barrels and set in the cellar, whereas it should be kept in open vessels in a room heated regularly to a temperature of 90°.

The molasses often sours. This is either because not thick enough, or not well skimmed.

Surface Culture and Mulching.

Prof. J. J. Mapes, at the Pennsylvania Horticultural Society, recently addressed them upon Surface Culture and Mulching. He premised by stating that if the subject were intended to be treated as a discussion on well prepared soil, he would state his experience. He had found in his own practice that the new horse tools used by gardeners should be adopted by farmers, if they would attain the highest results. The subsoil lifter he considered indispensible to good culture. When a mole burrows under ground, he leaves the soil much looser than can be done by the plow, which compacts the bottom and side of the furrow, in proportion to the depth and width of the slice, and the propulsive force required. The mole lifts only three-quarters of an inch deep, but leaves the soil thoroughly pulverized. The subsoil imitates this action on a large scale; it penetrates much deeper, but does not *invert* the soil, it only *lifts* it, and it falls back again, the relative positions of the particles being changed. In surface culture, it is only necessary to change the relation of the atoms of soil, so as to present fresh surfaces to the action of the roots of plants; and therefore, the millionth part of an inch is as good as more, provided the disturbance be thorough and uniform. In cultivating growing crops with this plow, we lift plant and soil together. The lifting is not vertical, but in the form of a V. A plow four inches wide, plowing at a depth of

ten inches, will disturb the surface at a depth of fourteen inches.

When corn is three inches high, we run a subsoil lifter between the rows, and every plant is generally lifted, without injury to the roots. It looks as if a huge serpent were burrowing in the ground. This operation is more effectual, and loosens the soil better than twenty hoeings. Then follow, as the weeds begin to grow, with Howe's or Knox's horse-hoe, which leaves the weeds on the surface to wilt, and keep the ground clean and mellow, the first time four inches, and the second time one inch deep. I never use hand tools nor hill the corn. When hilled, the production of side roots is encouraged; but in flat cultivation, the tap-root goes deeper and takes stronger hold on the soil.—The corn will not be so easily blown down by flat culture as when hilled. Carrots we treat in the same manner, loosening and but slightly disturbing the soil. The seed is buried in the ground in a bag until soft, and then sowed with one-tenth part of scarlet-radish seed, well mixed. The carrot is slow to germinate, but the radish comes up quickly, and marks out the rows before the weeds get too high; its leaves also shade the young carrot from the sun's rays. Just before the radishes are full grown, the small, one-horse subsoil plow is run between the rows, and the radishes are easily removed from the loosened soil without injury to the carrots. This is followed in a few days by the carrot-weeder, and if properly done, little or no hand weeding is necessary. We readily obtain one thousand bushels per acre by this system of cultivation.

I formerly employed twenty men to cultivate thirty acres, with hand tools; I now have one hundred acres better done by four men and three boys, with the improved horse tools.

As an illustration of the effect of a change of surface of the particles of soil, observe a pile of cannon balls, exposed to the air. The rain washes off all the rust from the iron, except at the points of contact of the balls; here there is always oxide of iron. Turn these balls, and the rust will disappear, but will form again at the new points of contact. So with the soil; its particles should constantly present fresh surface to the action of the air, moisture and roots of plants. The first half-pint of water falling on a given surface, is worth more than five gallons afterwards, as it takes up all the fertilizing gases of the atmosphere. The rains and dews thus *wash* the air. The surface of the soil should be put in such condition, by thorough culture, as to retain and absorb all these elements.

Mulching was first practiced in England under the name of Gurneyism. Cover a plot of grass in the fall with a board, stones, shavings, or what not, and uncover it in the spring; you will have tall grass there next summer. The long manure applied by farmers in autumn, acts in the same way. If the soil, from any cause, is 1¾° cooler than the air in summer, the atmospheric moisture will condense upon it. Mulched soil is always thus cooler than the air above it, and a condensation of the fertilizing elements of the air is constantly going on; these elements exhale from the soil by day, and are re-condensed at night. Salt hay applied to a field in autumn and removed in spring, is as good as half a coating of manure.

Prof. M. here explained his method of training the mule for close cultivation between narrow rows of crops. Prefers the mule to the horse, as more easily taught, though sooner forgetting his lesson. One hundred acres can be kept clean and free from weeds by one well trained mule and boy.

As to the mulching of fruit trees, there has been much speculation indulged in. I practice it upon pear trees successfully, leaving one occasionally unmulched to see its effect. The water passing into a tree should be as cool as the tree itself; mulching secures a cool soil and cool drink for the tree. There is no danger of summer blight of the pear tree, if no putrescent manures are used, and the soil be properly mulched. The covering should be removed in the fall, to prevent an excess of water passing into the tree, and a late succulent growth.

Would not undertake to farm without the subsoil lifter. Plow as deep as the loam is, and follow in the furrow with the subsoil lifter, the beam running on the bed of the furrow; in this way he now disturbs the soil more than two feet deep. There cannot be any drought in well subsoiled land, well underdrained — There is, always, in the severest drought, a great deal of moisture in the air, and such a soil will condense from the air passing into it enough moisture to supply the wants of plants. *Every* kind of soil needs subsoiling. Subsoiled meadows will never run out. It is not requisite to plow the sod under every few years, but run a subsoil cutter through every three feet and cut off the roots, leaving the sod in the same position as before, and then top-dress with some slowly soluble manure.

Grasses are, like wheat, tillering plants; in an unworked subsoil, they cannot long continue to tiller and gather fresh food, but must be fed from the surface.

He has leased grass lands, cultivated them eight years in this way, getting two and a half to three tons per acre, and returned them to the owner in an improved condition. However shallow planted a crop may be, it will do better if first well subsoiled.—*Cal. Farmer.*

Deep Plowing.—Now, while the plow is doing its annual autumn work on the broad acres of Wisconsin, we would whisper in the ear of the plowman, "*A little deeper, neighbor; it will surely pay!*"

America the Granary of the World.

In his book of travels in the United States, recently published, Mr. Trollope says:—I was at Chicago and at Buffalo in October, 1861.—I went down to the granaries, aed climbed up into the elevators. I saw the wheat running in rivers from one vessel to another, and from railroad vans up into huge bins on the top stories of the warehouses; for there rivers of food run up hill as easily as they do down. I saw corn measured by the forty bushel measure with as much ease as we measure an ounce of cheese, and with greater rapidity. I ascertained that the work went on, week-day and sunday, day and night incessantly; rivers of wheat and rivers of maize ever running. I saw men bathed in corn as they distributed it in its flow. I saw bins by the score laden with wheat, in each of which bins there was space for a comfortable residence. I breathed the flour, and drank the flour, and felt myself to be enveloped in a world of breadstuff. And then I believed, understood, and brought it home to myself as a fact, that here in the corn lands of Michigan, and amid the bluffs of Wisconsin, and on the high table plains of Minnesota, and the prairies of Illinois, had God prepared the food for the increasing millions of the Eastern World, as also for the coming millions of the Western. I began to know what it was for a country to overflow with milk and honey, to burst with its fruits, and be smothered by its own riches. From St. Pual down the Mississippi, by the shores of Wisconsin and Iowa, by the ports on Lake Pepin, by La Crosse, from which one railway runs eastward, by Prairie du Chien, the terminus of a second, by Dunleith, Fulton, and Rock Island, from which three other lines run eastward, all through that wonderful State of Illinois—the farmer's glory—along the ports of the great Lakes, through Michigan, Illinois, Ohio, and further Pennsylvania, up to Buffalo, the great gate of the Western Ceres, the loud cry was this—"How shall we rid ourselves of our corn and wheat?" The result has been the passage of 60,000,000 bushels of breadstuffs through that gate in one year! Let those who are susceptible of statistics ponder that. For them who are not, I can only give this advice. Let them go to Buffalo next October and look for themselves.

Seeding with Clover after Corn.—W. J. Pettee, in the *Country Gent.*, says: "The writer has been in the habit for several consecutive seasons, immediately after the last hoeing of corn, (which has been cultivated as level as practicable,) of sowing clover seed by going between each row one way, and carefully scattering the seeds under the leaves and stalks at the rate of 15 lbs. to the acre, and usually with good success. The corn seems to shade the seed sufficiently to protect it from the too powerful heat of the sun, and if the land is in good titlth, a good catch is secured for pasturing or plowing under."

STOCK REGISTER.

Wool Prospects.

The sequel has shown, and the future will yet more fully show, that our advice of last year relative to the certain advance of the wool market was sound. The causes at work have materially increased the demand since that date, and the prospect is that prices will be yet further enhanced. Indeed some industrial journals are of the opinion that good wool may bring a dollar a pound before the next clip.

It may not—probably will not—reach so high a figure as that, but the almost complete working up of the last year's crop before the clip of the present season was made; the diminished supply from the Middle and more Northern Rebel States; the extra quantity necessary to supply the extraordinary demand for army use, together with the unusual wear and waste of woolen fabrics consequent upon the war;—all these circumstances combining as causes cannot fail to create a demand for the raw material, such as producers have never enjoyed in times past.

Many quick-sighted farmers have discovered this in advance of the public generally, and are promptly putting themselves in a position to profit as early as possible by this new turn in the wheel of agricultural fortune. But, inasmuch as the tendency is naturally to extremes in matters of this sort, we would caution our readers, here and now, against the folly of dropping everything else for the sake of producing wool. If the war should continue for some years longer, there will be a corresponding demand for other products of the farm—particularly for beef, pork and breadstuffs—and, if, on the other hand, it should soon terminate, then the demand for wool would measurably diminish.

It requires some little time, however, to materially increase the number of sheep in the whole country; so that it is hardly probable that wool-growing may be overdone for the next two or three years.

The Value of the Milk Crop of the United States.

The value of the milk crop may be very fairly estimated from the value of milk used in the manufacture of butter. Fifty-four per cent. of the entire crop in the thirteen States hereinafter mentioned is made into butter; hence, the value of butter forms a very correct basis for ascertaining the true value of milk. In the following table the prices of milk given for each State have been derived by taking the average prices given for the cost value of butter at the places where it is made, and extended over a period of twelve years. The localities were selected from various sections of each State. This method was pursued with all the States except Wisconsin, which extended over a period of only three years.

I am aware that these values, with the exception of Delaware, fall below the generally estimated value of milk; yet I am confident that if there is any variation from the true value it is that I have overestimated them.—*The value of milk in the United States will average less than one cent and five mills per quart.*

The following is a correct statement of the value of milk per quart, the total value of the crop, together with the value of the amount consumed in each of the named States:

States.	Price per qt	Val. consumed	Total value.
	Cents.		
Maine,	1.36	$1,523,377 96	$3,606,246 72
New Hampshire,	1.44	1,080,753 52	2,459,289 60
Vermont,	1.28	1,040,488 41	3,955,921 92
Massachusetts,	1.68	2,277,334 52	4,369,438 08
Rhode Island,	1.64	353,752 46	518,544 00
Connecticut,	1.60	1,017,375 82	2,847,657 60
New York,	1.36	7,385,216 72	27,506,291 04
Pennsylvania,	1.28	7,089,005 12	15,518,522 88
New Jersey,	1.76	1,933,688 29	4,396,754 24
Delaware,	2.00	455,277 40	813,420 00
Maryland,	1.20	1,155,437 83	2,040,400 80
Wisconsin,	1.48	2,578,368 89	5,160,053 44
Virginia,	1.12	4,542,284 53	6,665,440 32
Total,		32,432,361 47	79,857,980 64

1. Milk is worth the most in Delaware and the least in Virginia. The small extent of the territory of Delaware, and its proximity to market, will readily account for the high price of its milk crop.

2. New York produces as much milk in value as the six New England States, together with New Jersey, Delaware and Maryland.

3. New York and Pennsylvania produce more milk than the eleven remaining States, and nearly one-third the entire crop of the United States.

4. It is remarkable that Maine, New Hampshire, Vermont, Connecticut, New Jersey and Maryland consume about the same amount in value. Pennsylvania consumes nearly as much as New York, although she produces but little more than half in value.

5. The value of milk seems to be determined by its proximity to market. It cannot be transported under the present treatment like many other articles of produce.

With the above tables as a basis, it is estimated that the entire milk crop of the United States for the year 1860 exceeded $160,000,000.

Amount consumed as food,	$90,000,000
Amount manufactured into butter,	65,000,000
Amount manufactured into cheese,	5,000,000
Total,	160,000,000

The above is the cost of the milk. The additional value produced by the manufacture and transportation of butter and cheese will make the value of the dairy of the United States for the year 1860 exceed $200,000,000.

This estimate is made on the value of milk at 1.48 cent per quart. Should the common estimate of two cents per quart be adopted, the value of the dairy will be upwards of $260,000,000.

This estimate is also made on assuming the average produce of each cow to be 1,800 quarts of milk. Should the average annual produce of cows be raised to 2,200 each, as it ought to be, the value of the dairy products of the country would be about $320,000,000.—*Patent Office Report.*

Milk Fever in Cows—Cause and Remedy.

I will give my opinion on the origin and treatment of the disease, as I have tried a great many experiments on it, and think that I at least am master of it. I have had several cases of it for the last few years, and have lost none. It originates in the calf bed. The cow being fleshy and full of blood and milk, and calving in hot weather, an inflammation arises in the part mentioned, which arrests all action of the blood, milk and bowels, and unless this inflammation is stopped, and a circulation got up, she will soon mortify.

My mode of treatment is as follows, and whoever tries it will effect a cure in nine cases out of ten. As soon as I see the cow has the disease, I take sacking, or other heavy cloth, lay it across the small of the back, and keep it constantly wet with cold water from the spring, poured on by pails full. This will allay the inflammation until physic can be got to operate. Then take a handful of tobacco wet in vinegar, and bind it in the hollow of the head back of the horns, and keep it wet with vinegar, as the disease appears to affect the head very much. After this is done, commence giving physic—give one pound of Epsom or Glauber salts. This I think the best if handy, for it is cooling to the system; if not handy, take about two quarts of molasses and lard, each equal parts. After the physic has been down two hours and no operation, take a lump of chalk the size of a hen's egg, pulverize it fine, put it in a quart bottle, and as soon as the cow is got in a position to give it, pour in one pint of good vinegar quickly, placing the bottle to her throat, and let it go down. If

there is no operation in the space of three or four hours, repeat the last dose. Chalk and vinegar I know to be a harmless physic. Wait about half an hour, and if no operation, cord the neck and bleed about two quarts, which will greatly facilitate the operation of the physic(?). Give the cow all the while cold water to drink. After there is a circulation got, the cow must be fed moderately for a few days. Several cows under my observation, that had been milked for several days previous to calving, have had the milk fever, so I think it no preventive.—*Cor. Country Gentleman.*

North Dutch Bull.

Reference having been made under another head ("Exhibition of the Royal Agricultural Society of England,") to the race of Dutch Cattle as among the most famous in the world for dairy purposes, we herewith publish an excellent illustration of a representative of this popular breed

The history of the Dutch breed goes back to an early date—to a period, even long anterior to the early efforts for the improvement of the cattle of Great Britain.

Indeed it seems to be pretty well established, that it was upon importations of this breed that were based that breed of high character now known as the Durham.

In appearance, they are quite distinctive, having short horns, a close, compact form, and being rather smaller than the "Short Horns," so called, and of a peculiar color—either "red or black variegated, gray and blue variegated, roan or spotted and white variegated." Those at the Royal Show, however, as well as a majority of all others that we have seen in Europe are black and white.

In Holland they are esteemed above all other races and the renowned cheeses of that country are believed by the people who make them to be possible with no other breed of cattle. The cows are tractable, easily kept and readily fattened when no longer fit for use as milkers.

The quantity of milk produced by them is very large, sixteen to twenty-five quarts to the milking being not uncommon. The quality, also, is excellent, producing a large proportion of the best butter as well as cheese.

The first importations into this country were made in 1625, by the Dutch West India Company, and the superior quality of many of our old, native or grade cattle may be justly attributed, in large part to those and subsequent importations.

In some of the New England and Middle States there are herds of the pure blooded Dutch, but we know of none in the West. The animal represented by the above cut was imported by Mr. Cheney, of Mass., in 1857, from Beemster, in the northern portion of Purmerend. For the electrotype itself we are indebted to the able author of "*Milch Cows and Dairy Farming.*"

Feeding Swine.—Mr. Taggart, of Wayne county, at the last annual meeting of the Ohio State Board, said he was not in favor of feeding hogs long, to make them weigh large weights. He kept his in the clover field till the beginning of September; then, when the corn begins to harden, cuts it up, both ear and stalk, and feeds it to them. "One bushel of corn, in September, will fatten more than one and a half in December." Mr. T. recommended killing by the 15th of November, as being the most profitable time, for then there has been little expenditure of carbon for the production of heat, when, if left for another moth, the cold, wintry storms make this necessary.

Corn and Cob Meal for Animals.

A wrtter in the Louisville, (Ky.) *Journal*—a great corn region—takes issue with the rest of mankind on the long debated question whether corn and cob meal was or was not injurious to animals. A dozen years ago it was a very common practice with nearly all our principal farmers to have their corn ground on the cob, as food especially for their cattle, sheep and swine; but of late years the practice has very much diminished from the pretty general belief that it was injurious to the animals. We have never held any decided opinion on the question, having neither experimented with it ourself, nor been convinced by the experiments of others. The writer, whose article is copied below, speaks very confidently on the negative side of the question.—*Ex.*

For several years past there has been much said and written, favorably and unfavorably, on grinding corn in the ear as food for stock. I have been both amused and disgusted at the recital of stories told and read by individuals.

I have fed corn and cob meal, more or less, to horses, cattle, sheep, and hogs, in various forms, at all seasons of the year, for some six years, and have never seen any evil effects resulting therefrom. But on the contrary, have found it to be a saving of about one-half of the grain fed in the ordinary way, and more, if properly cooked and care be taken in feeding. I have fattened cattle, hogs and sheep in half the time I could on whole corn, and frequently in the coldest weather, when whole corn would not more than keep them in living order. When ground fine, I consider it better for stock than meal ground from shelled corn. It lies looser in the animal's stomach, and will not sour, as pure corn meal will. I will give one illustration to suffice for many, showing the fallacy of the danger in feeding corn and cob meal. Five years ago this winter, I put up a poor, old, work ox; fed him until spring; he was fat, but as I could not sell him for what I thought he was worth, I summered him over to the next fall, put him up again and fed him as before with corn and cob meal; killed him the beginning of January following. A healthier animal I never saw, and as for fatness, there was not a single half-pound of flesh but what was streaked with fat. He was not a large animal, yet brought me nearly $100 in Mount Gilead market. I will give you his gross and nett weight the day he was butchered. His gross weight was only a few pounds over 1800. The meat, after the kidney tallow was taken out, weighed 1000 pounds; the hide weighed 137 pounds; the whole of the tallow, after being well tried out, weighed 220 pounds. So you see that the meat, tallow, and hide weighed 1357 pounds, leaving a waste of only 443 pounds, not quite one-fourth. If Mr. Todd or his neighbors can beat the above, through any other process of feeding, we would like to hear from them. I will close by stating that I have horses in my possession that have been fed more or less on the above kind of food from three to five years, and my neighbors will bear me witness that few horses in the country perform more hard service.—*Northwest. Far.*

Feeding Oats to Horses.

The same quantity of oats given to a horse produces different effects according to the time they are administered. I have made experiments on my horses, and have always observed there is in the dung a quantity of oats not digested when I purposely gave them water after a feed of oats. There is, then, decidedly a great advantage in giving horses water before corn. There is another bad habit, that of giving corn and hay on their return to the stable after hard work. Being very hungry, they devour it eagerly and do not masticate; the consequence is, it is not so well digested and not nearly so nutritious When a horse returns from work, perspiring and out of breath, he should be allowed to rest for a time, then giving a little hay, a half an hour afterward water, then oats. By this plan water may be given without risk of cold, as the oats act as a stimulant.—*Journal d'Agriculture.*

THE POULTERER.

Profit in Keeping Fowls.

It is a prevalent opinion among most farmers that there is no profit in keeping fowls; but there are a few who find that, having the right breed of fowls, with proper care and attention it is quite a profitable branch of the farmer's business; and I am one of the few.

Most farmers devote little attention to the feathered stock, allowing the lady members of the family to throw grain out at the back door, when the fowls become troublesome from hunger; this they consider sufficient care through summer and winter, and expect the fowls to thrive and be profitable upon such keeping; now from my practical observation in the management of fowls, I have come to the conclusion that like all animals, they require careful management and proper food, and with such there are no animals kept upon the farm that will pay a better return for the money expended.

A few mistakes are often made by our farmers in the management of their fowls; in the first place they keep too many fowls; it is almost impossible to keep one hundred in an enclosure for any length of time, say two years without disease. I find that more eggs can be produced from twenty good pullets through the winter season than from one hundrod. I have tried it repeatedly, and although it seems incredible, yet it is true.

Another mistake is by keeping them in warm,

confined coops, and not feeding them regularly, and upon proper food. A good hardy breed of fowls, do not require such warm and close roosting, or night coops as many think. A coop should be light, dry, and well ventilated from the top if possible, particularly avoiding a draft. Select a good hardy breed of fowls, and keep no other kind with them, keep them in such a coop, with ample yard room and in the winter season allow them to sun themselves under the shelter of a barn or high fence, "which will pay to be erected for their benefit." Feed upon corn and barley, and occasionally with meat, "beef preferred," and your fowls will pay a handsome profit. I also allow no rooster to run with my flock, as I think they do much better without him until spring approaches. A great difficulty with most breeds of fowls is that they are tender and cannot bear our severe winters, for that reason I still retain the opinion that the pure Brahma fowl is the fowl for our New England farmers, as they do not suffer from the cold in the most severe weather, are quick to mature, and great winter, as well as summer, layers. One of our most successful farmers has kept no other breed for years; he winters about twenty-five pullets in his barn cellar and has eggs from them through the entire winter. He sets his hens in March, hatching from one to two hundred chickens; they are very hardy, maturing early; by the first of July he disposes of all but his winter stock to the butcher at an average price of fifty cents each. He has pullets hatched in March that have been laying since July.

I know of no breed of fowls that will do this in our climate; there are few breeds of chickens that can bear our severe March weather as these do. I hatched in May last 110 chickens, and have now 101, having lost but nine in rearing them. Now I believe if our farmers will but keep the most hardy breed of fowls and care for them as they do their Milch cows or pigs, they will find that one of the most profitable part of their farm stock will be their fowls.—*Cor. Mass. Ploughman.*

Distinction between the Male and Female.—In selecting any water birds whose plumage is alike in both sexes, and which cannot, therefore, be distinguished with certainty, the best rule is to see them in the water, and take that which swims deepest for the female; and that which floats with greatest buoyancy for the male, remembering that, as a general rule, all creatures of the masculine gender have the largest lungs in proportion to their size. The neck of the cock swan is usually thicker. An experienced eye will, besides, detect a certain feminine gentleness and modesty in the one, and an alacrity and boldness in the other, which is a tolerably safe guide, as well as an appropriate and becoming attribute to the creatures themselves.—Browne.

THE BEE KEEPER.

Rape for Honey—Quick Work.

The rapidity with which bees will build comb and gather honey, under favorable circumstances, is so extraordinary as to be almost incredible. Mr. Brink says, that he has known a strong swarm to fill its hive with comb in seventy-two hours; and that colonies expelled in August, put into empty hives, and transported to the heaths, would fill the hive with new comb and gather from 30 to 40 pounds of honey, in the brief season for work in which they could labor. In the spring of 1853, one of his neighbors carried his stocks, whose stores were nearly exhausted, to a distant rape field then in blossom. The weather was raw and unfavorable at the time, but suddenly changed, becoming mild and clear. The bees labored so successfully, that after a few days his neighbor called on him for advice, saying that the liquid honey was running in streams from the hives. On examination it appeared that all the combs were filled to overflowing, in consequence of the superabundance of nectar supplied by the rape blossoms, and the indefatigable industry of the bees in gathering it. The soil on which the rape grew was a calcareous marl.—*Bee Journal.*

Worker Bees Short-Lived.

The age to which worker bees *may* attain is not easily ascertained, and opinions differ widely respecting it. But since the introduction of the Italian bee, we may readily determine how old they usually get to be. If the native queen of a common stock be removed about the middle of May, and a fertile Italian queen substituted, we shall scarcely find one common worker among a thousand on examining a colony about the first of August ensuing. If the substitution be made about the end of July, the proportion of common workers remaining at the end of October, will be about one-fourth or one-fifth of the whole number. It is hence, evident that the duration of life in the case of workers, is greatly dependent on the season. When forage abounds, and bees are industriously gathering stores, their span of existence appears to be comparatively short; and we may estimate that during the height of the honey season, they do not, on the average, live longer than five or six weeks; though they perish more from accident and exhaustion than from actual old age.—*Am. Bee Journal.*

☞ In Switzerland, and even among the Alps, where the climate is of course much severer than it is in any part of the United States, bee-keeping is quite an important branch of farming. But the Swiss give their bees more attention than we, and that is the secret of their success.

THE HORTICULTURIST.

A. G. HANFORD, : : CORRESPONDING EDITOR.

Blight on the Pear.

The principal, if not the only serious obstacle in the way of growing this fine fruit as abundantly and cheaply as the apple, is the Sap or Fire blight.

This disease often makes its appearance during the most rapid growth of mid summer.—Without apparent cause, the leaves of a branch and the branch itself will suddenly wither and blacken, the disease extending rapidly downwards, if unchecked, until the tree is destroyed. At other times the whole tree is seemingly affected and blackens at once. The fire blight is not confined to trees making rapid growth, some of the worst cases we have known were of trees standing in turf, and making little or no growth.

The Quince and Apple are occasionally affected in a similar manner but usually recover without much attention.

Horticulturists are divided as to the cause of this malady. Various theories have been advanced, none of which however seem to meet every case. It often prevails extensively for a single season and then disappears from the neighborhood for many years.

J. J. Thomas says: "There are two remedies for the fire blight, both taken together will maintain any pear orchard undiminished. The first is the well known one of *cutting away the diseased parts, doing it promptly and continually*, and two or three feet below the blackened portions. This will save many trees. When the tree dies in spite of this treatment, adopt the other remedy, namely: *Whenever one tree dies, plant out two more.*" Some varieties seem less liable to this disease than others, and all are more free when planted in good, well drained soil.

The leaf blight is quite another thing and should not be mistaken for that above described. This blight is confined to the leaves, making its appearance during the dry weather of mid summer, first on a few leaves, and gradually extending until the entire tree is stripped of its foliage, as in autumn. The growth of tree and fruit is at once arrested on the appearance of this disease.

Deep and thorough culture is a pretty sure preventive of *this* form of blight.

A. G. HANFORD.

COLUMBUS, O., SEPT., 1862.

Strawberries.

[Being extracts from an article by Dr. J. A. Warder, of Ohio, in the Patent Office Report for 1861.]

Why do not the millions of our population have and enjoy so simple and so delicious, so health-giving a luxury as the strawberry? It is because the thousands of producers and of those who might be producers of this fine fruit are unacquainted with the simple processes that should be pursued in the production of paying crops, and perhaps, also, because they will not take the trouble to create the millions of bushels for the millions of consumers who are ready in all the cities, towns, and villages of our country to pay a full compensation for the labor bestowed on their production. * * *

For the amateur cultivator there is nothing which he can plant that is so satisfactory as the strawberry; nothing that will so soon reward his labors. The strawberry is the earliest of our small fruits. It is easily, as well as quickly produced, most acceptable to all palates, abundantly productive, and remarkably conducive to health. Every one who controls but a few yards or rods of earth should plant strawberries. * * *

PRODUCE AND PROFITS.

The productiveness of the strawberry is immense, and the consumption of them is in proportion, and yet they bring a good price. The export demand from some cities helps to keep up the price. Mr. Pardee estimates the sales in the four cities of Boston, New York, Philadelphia and Cincinnati, at 93,000 bushels per annum—it would be nearer to the round number of one hundred thousand. A single train has taken into New York 893 bushels, and the aggregate amount of sales in that city may be estimated at $200,000.

The average crop is not so large per acre as it should be, owing to the rough kind of culture, but we have accounts of crops of from one hundred bushels to two hundred and fifty bushels per acre. Eight hundred dollars have been realized from an acre. Mr. Knox, of Pittsburg, has been very successful as a large cultivator of strawberries upon the most thorough mode of cultivation; he admits that his plan costs two hundred dollars per acre, but

claims a proportionately large yield and return of profit.

This article should not be closed without a reference to Mr. Knox, who has extensively and practically carried out the recommendations of growing the plants separately and without runners. He may be said to have wrought a revolution in the culture of this fruit. Mr. Thomson gives the following account of his strawberry grounds in the *Gardener's Monthly*, for November, 1861, page 333:

"He has been called the 'Strawberry King;' and if unquestionable pre-eminence in this branch of fruit culture can entitle a person to the appellation, it is justly bestowed. He has fifty acres in strawberries. * * * During the past season the hands employed in picking and sending fruit to market numbered, at times, as many as three hundred a day, and the berries were sent in large quantities to New York, Philadelphia, Buffalo, Chicago, Detroit, and most of the other cities of the north and west, some even to Canada. In consequence of the size and hansome appearance of the fruit, (the results of thorough culture of choice varieties,) it brought, in most cases, fully double the price obtained for such as is ordinarily to be found in our city markets. * * * *

"For fruiting, all the vines are cultivated in rows two and a half feet apart. * * * The vines are kept free from runners, which are removed by hand as they appear; the effect of which is extraordinary vigor of growth, and the formation of numerous and prominent crowns, which will throw up an abundance of strong fruit stalks next season. The ground between the rows is kept perfectly clear of weeds by hoe and hand culture; and the latter part of November the entire beds are covered with a layer of straw, which protects the plants during the winter, is removed from the plants in the spring, and suffered to remain between them during the summer, acting as a mulch, keeping the ground moist, protecting the fruit from dirt, checking the growth of weeds, and eventually, by decaying, afford nourishment to the soil. * * * * * *

"The mode of culture pursued on this farm is necessarily expensive, but experience has demonstrated that it pays better than a less expensive system; its policy, even in an economic point of view, is established."

At a meeting of the Brooklyn (New York) Horticultural Society, Mr. Knox said:*

"The soil I prefer is a light clay limestone. I stir the ground, for a crop of two or three years, not to a great depth—eight to ten inches. For producing strawberries ten or more years, stir from twenty inches to two feet, after drainage. I do it with an ordinary plough and a lifter, with oxen. Plant in rows two and a half feet apart, and ten inches apart in the rows. I raise no fruit the first year, but take off the fruit stems and all runners as fast as they appear. For a few years I stirred the soil with a strawberry cultivator, but now do not disturb the soil at all; the whole ground becomes a net-work of fibrous roots. As a protection in the fall, I prefer rye straw threshed with a flail, and attach great importance to this covering; frost will destroy much embryo fruit if not protected. It acts as a mulch, and keeps moisture in the ground. I have discarded every implement except the hoe, and use that only for weeds.

"I speak with considerable caution about varieties. Hovey's Seedling is very valuable. It does well at Boston and at Cleveland, but does not do well with me, with all my care.—Some varieties deteriorate. Buist's Prize has run out, and is nearly discarded by growers at Pittsburg. We have to suit different tastes—some like tart and others like sweet. It is important to lengthen the season. This is ordinarily three weeks; but by selecting different kinds we can extend it to five weeks. Baltimore Scarlet, Jenny Lind, and Burr's New Pine are good early strawberries; Trollope's Victoria, Kitley's Goliath, Nimrod, and Buist's Prize are good later ones. For medium season: Brighton Pine, Boston Pine, McAvoy's Superior, Scott's Seedling, Moyamensing, Downer's Prolific, Filmore, Golden Seeded, British Queen, Vicomptesse Hericort de Thury, Wilson's Albany, and last, but not least, the Triomphe de Gaud. Wilson's Albany is certainly a very valuable variety, although our Boston friends condemn it; it improves by years, and is preferred by many. But the strawberry of all strawberries—the one I would plant, if confined to one, on ten feet or one hundred acres—the strawberry for the eye, the palate, or the pocket, is the Triomphe de Gaud. It produces an abundant crop—not so much as the Wilson, but an acre of the Triomphe is more profitable than an acre of the Wilson. Nearly all the Triomphe de Gaud are uniformly large, and they remain so to the end of the season. It is the most beautiful of all strawberries, and would draw attention from all others. It throws the Wilson into the shade. It carries well. I have sent them to Erie, Cleveland, Cincinnati, Philadelphia, Buffalo and New York. * * * For marketing, my experience is this: Produce a good berry, handle it well, bring it before the people in a handsome and attractive condition, and they will pay for it; and it will be a long time before the market can be overstocked with fine fruit. In gathering the fruit, pinch off the berry with the stem on; don't pull them.

"The Wilson may be made to produce from five to six hundred bushels per acre. We can average three hundred bushels to the acre with the best varieties properly cultivated. By expending one hundred dollars I can make one acre pay better than five acres managed in the old way. I care nothing for old plans as long as I can invest my money at one hundred

* *Vide* Horticulturist, vol. 17, page 100.

per cent., and I have good reason to know that mine pays that."

The reader of the above must bear in mind that the enormous crops of Mr. Knox are the result of high culture, and with the persistent removal of all the runners. The plants are thus forced into the production of fruit.

Delaware Grape.

J. E. Mottier, Chairman of the Committee on Grapes of the Cincinnati Horticultural Society, gives seven reasons why he places the Delaware at the head of the hardy grapes, viz:

"1st. Its superior quality for table use;

2d. It produces finer and richer wine;

3d. The vine stands the winter freezing better than the Catawba;

4th. It stands the spring frosts better;

5th. The grapes never rot;

6th. There is no falling off of the leaves till the grapes are fully ripe;

7th. The certainty of their growing and the general hardiness and healthiness of the vine."

The Delaware is likely to prove a valuable addition to the list of *hardy* grapes for Wisconsin.

It is more hardy than the Catawba or Isabella; ripens so as to be out of the way of early autumn frosts; which is never the case with the Catawba and *not always* with the Isabella, in Wisconsin.

The first year or two after planting, the Delaware is a feeble grower and is then a little tender, requiring protection—a covering late in autumn of 3 or 4 inches of dry leaves or the like. After this, in well prepared soil, it makes a strong growth, quite equal to the Isabella.

The Delaware has been ripe with us for two weeks or more, while the Isabella is but just nicely colored and will not be really good, for another week or two.

The demand for the Delaware increases every year, and keeps pace with the propagation. Still the price is greatly reduced, and is now such as to place this most delicious fruit within the reach of all. A. G. HANFORD.

COLUMBUS, Ohio, Sept. 17th, 1862.

Exhibition of the Royal Horticultural Society of England.

During the period of the International Exhibition, this distinguished Society has made it a part of its plan to hold one grand exhibition of the products of horticulture, every month.

The grounds of the Society we have already described as being directly connected with the great Exhibition Palace, which, indeed, on the north, or crystal side, opens directly into them. They are completely inclosed by the main portion of the Exhibition building on the south, its two "annexes" on the east and west, and the Society's splendid Conservatory and open arcades on the north, and, with their beautiful grass lawns, handsome walks, magnificent fountains, statues, and charming parterres became every day a greater attraction to the multitudes of visitors.

On the occasion referred to they were put in the best possible condition, and notwithstanding the capriciousness of the weather—now radiant with light and beauty, now lowering with clouds and wet with a sort of spiteful rain, then, all at once so dreadfully "breezy" as to upset the pleasant temporary canvas tents erected in the open ground for the accommodation of numerous plants and flowers—presented so many attractions that thousands upon thousands of delighted people thronged them from morning until night. Pecuniarily, therefore, it may safely be called a success, as the admission fee of seven shillings and sixpence, (about $1.80), taken in connection with the numbers, must have given very large returns.

But the show itself was not a whit behind the place and the extraordinary circumstances attendant—so much superior to anything else we have ever seen, that we know of nothing with which to compare it,

Proceeding in the natural order, we examined first the

PLANTS, EVERGREENS, & ORNAMENTAL SHRUBS.

The number and variety of which, must render utterly futile our best attempts to describe them in detail. We shall not, therefore, essay unything more than the general statement that

they comprised, in addition to the ordinary evergreens, a large number of recently introduced shrubs and plants from various parts of the world. Among these last were several but lately introduced from Japan by the Messrs. Veitch & Son, of the Royal Exotic Nursery, Chelsea, London—some beautiful Conifers being of the number.

The *Pinum densiflora* (the specimens exhibited, young and representatives in *kind* only) is found in nearly all parts of Japan, and in the middle portions of the empire forms vast forests. It delights in mountain slopes but does not flourish higher than 1000 to 2000 feet above the level of the sea. According to Siebold it is highly esteemed in its native country, not only on account of its timber, which is excellent, but likewise for its resin, which the Japanese use as the chief constituent of salves for the healing of wounds and sores.—It is also said that the soot is used for the manufacture of Indian or China ink.

We also saw specimens of the *Retinospora obtusa* and *Ret. pisifera*, both from Japan, and of the *Libocedrus tetragona*, recently introduced from the Andes of Patagonia.

This last is a beautiful tree while young, and is described by those who have seen it in its native habitat, as one of the finest Conifers produced by South America. The foliage is of a light green, and the leaves are so closely arranged on the branches which they cover entirely, as to form a perfect square; whence its specific name, *tetragona*, (four-angled). With a pyramidal or columnar habit, and the peculiarity of foliage above described, it cannot fail to be popular. As it grows natively on the Andes just below the line of perpetual snow, there can be no doubt of its hardiness and perfect adaptation to the coldest portions of the United States.

There were likewise several beautiful Palms and Cycads on exhibition, Ferns, Requias, &c., &c., without number. Finest Ferns by Ivery & Son, Dorking.

A BLOOMING ALOE!

But more interesting, to us, than all these we have named, was a specimen of the Aloe coming into bloom—a thing which happens only once in a half century in the life of any given plant. With characteristic Yankee prudence, we were at first careful not to express too much enthusiasm over this rare event, lest we should be thought a little green in horticultural matters. But we soon found that many of the *savans* had never witnessed the flowering before, and were as much delighted as we.

Properly speaking, this plant had not flowered when we saw it; but it was sending up a magnificent spike at the rate of four inches a day, and ere this writing has revealed its half-concealed glory to those who have been fortunate enough to be able to visit the Conservatory during the past month. It was presented to the Royal Society by Mr. Nash, of Bury House, Edmonton, in whose family it had been cherished for nearly fifty years without blooming. The Aloe has commonly been said to flower only once in an *hundred* years, but this proves to have been an exaggeration. The "truth as it is," is wonderful enough.

ORCHIDS.

Messrs. Veitch & Son showed beautiful specimens of the *Anœctochilus intermedius*, a plant with four small, brown, velvety leaves with red veins and light green stripes in the middle. Also fine specimens of the *A. xanthophyllus*, and a collection of Saccolabiums, Phalænopses, Aerides, Cypripediums, (especially of the *C. barbatum nigrum*), Cattleyas, Vandas, &c., &c., &c.

We likewise observed among "plants in pots" a new (at least to us) and wonderful species of the *Clianthus*, to wit: *C. Lampsierii*.—Its stem is a winding vine, with leaves resembling the vetch; four crimson-and-black flowers on each flowering stem.

The *Lilium novum* (from Japan) was equally worthy of special attention. Flower, large and beautiful. Petals, six, white, dotted with black, and striped in the middle with a lovely light yellow.

The show of Fuschias was the finest, all things considered, that we have ever seen—of Geraniums immense and magnificent; the flowers exhibiting every shade of color and

some of the bunches measuring 2 to 4 feet across.

AMONG THE STOVE PLANTS

There were collections of the Caladiums—*C. argyrites* (green and white), *C. Houlletti*, *C. Balleymeri*,—and of many other families of which we omitted to make note.

All in all, the floral department was extremely fine and would have delighted the most fastidious florist in America.

FRUITS.

The show of these was splendid. Even yet the writer's mouth waters at the thought of the glorious display of apples, pears, plums, peaches, grapes, strawberries, and everything else in season and out of season. They were exhibited in a tent adjoining the Conservatory, and were so great an attraction that it was almost impossible to get a fair view of them without suffering from all sorts of embarassments, elbow punchings, and crinoline entanglements. The ladies—wives and daughters of the nobility, with a liberal sprinkling of gayly dressed plebian women—literally swarmed like bees about a new patch of white clover. To take notes under such circumstances, except with the eye, was out of the question, and our readers must be content, therefore, with what we were able to bring away in the memory.

Strawberries.—Oh, they were so fine, large and luscious! "British Queen"—light scarlet, beautiful. "Oscar"—fine, deep crimson. "Sir Chas. Napier"—remarkably large.

Gooseberries were represented chiefly by the "Merry Monarch"—a handsome berry.

Grapes.—Mr Standish, of Ascot, made a fine show of the Gros, Sweetwater, Toka, Muscat, of the Alexandre, (clusters 16 inches in length) of the General Marmora, (clusters over 16 inches), and of the Hamburghs—black, and "golden." And *such* Hamburghs! Clusters weighing 4 and 5 pounds; the grapes themselves an inch in diameter. Mr. Henderson showed a few clusters of "Victoria Hamburgh" that we have distinctly remembered as *purple* and *glorious*. The "Diamond-Drop"—a pale colored grape with a brown tinge on the sun side was shown by Mr. Wortley.

In connection with this exhibition of grapes may be mentioned an incident which illustrates the truth that the original Yankee is not the only fellow who is capable of playing tricks for his own advantage. A Mr. Alderson, of South Lambeth, exhibited two well-grown, luxuriant vines, very thickly hung with large and beautiful bunches of luscious grapes, and would have taken the prize without a moment's hesitation on the part of the committee, had they not been so remarkably fine as to have awakened the suspicion that they were not *really "grown in pots."* A careful inspection showed that a strong fine shoot had been introduced through the hole in the bottom. It was therefore apparent that the vine and fruit had been nourished up to within a very short time by the parent plant! Of course Mr. A. got the award of—disgrace and future exclusion.

Cherries were present in small quantity and few varieties—the Black Tartarian, and the May Duke being the only dishes we noticed.

Nectarines were shown by several exhibitors, a dish of the "Elruge" variety—large, fine, and beautifully colored—taking the first prize. The second prize was won by the Violette Hative.

Among the *Peaches* the Royal George and the Bellegarde ranked first and second—splendid specimens.

Pears were also there—the Doyenne having precedence. Yes, and *Figs*—Large Purple, and Brown Turkey; some of them over two inches in length.

Apples, few in quantity and inferior in quality; the Bess Pool, French Crabs, and the C. Blanche constituting pretty much the entire stock.

Show of *Plums* was small. Victorias best.

And last, but not *least* of all the fruits, came the Pine-Apples—handsome Queens, weighing 5 pounds and over, and White Providences, measuring 10x7 inches in diameter, and weighing 7½ lbs.

Melons and cucumbers of many varieties and excellent quality were there, but so eclipsed by the more delicate and delicious fruits proper, above named and unmentioned, that we gave them a very *passing* notice.

MECHANICAL & COMMERCIAL.

Machinery.

FRIEND HOYT:—I want to say to "L. J.," in the August No. of the FARMER, that I endorse his sentiments with regard to machinery. But, as he is a little out of the way in regard to some things, I hope he will not be offended if I say a few words. He says there are but three different kinds of stitches made by the sewing machine. His double lock stitch is nothing but a double loop stitch, the single loop is made with one thread, and double loop with two threads. The double and single loops are both called chain stitches. Besides these two, there are four others, to-wit: shuttle, or lock, and double lock, knot, and double knot, stitches. The loop stitch or single threaded machines range in price from $10 to $16, and are capable of doing all the sewing of a poor family, they are of more value to the poor than the high priced ones are to the rich. "The Little Giant," sold by T. S. Page, Toledo, O., price $15.00. The "Erie," R. James, Agent, Milan, Ohio, $15.00. The "New England," price $12.00. The "United States," T. G. Egglestone, Fox Lake, Wis., Ag't, price $12.00, are all of this class.

The double loop stitch machines range in price from $25 to $40, and use two threads off the spools without rewinding. The "Franklin," $25; "Youngs," of Chicago, Ill., $25; "Moores," Lockwood, of Racine, Ag't, $30; the "Pearle," $30, and a great many others too numerous to mention are of this class, and are very good machines, set on stands and go by treadle, while the cheaper ones are fastened to any table and are turned by the operator's right hand. Next comes the "big" machines. "Wheeler & Wilson," "Finkle & Lyon," and "Singer's," stand the highest in market at present, all about the same price, range from $50 to $150, according to the cases. There are quarter, half, and full cases, they all take the shuttle or lock stitch, (the lock stitch is not always made by a shuttle,) looks alike on both sides, and needs the under thread rewound every time. Some of the machines are so arranged that they wind the thread with the treadle, and have several bobbins so that different colored thread may be kept wound at the same time. These machines are arranged to do a large amount of fancy work, such as quilting, embroidering, felling, hemming, &c., &c., that the others are not capable of performing. The others can hem, fell, and quilt in an inferior way, but it is not to be compared to the "big machines." Lastly, I would speak of the "Florence" Sewing Machine, U. C., Mason, Agent, 124 Lake St., Chicago, Ill., price from $47 to $105, according to quality of cases. This machine makes the lock, double lock, knot, and double knot stitches, all of which can be produced while the machine is in motion; by the turning of a thumb-screw it also has the reversable feed, sewing backward just as well as forward. The lock stitch consists in passing the under thread through the loop made by the upper thread when it is passed through the cloth by the needle. The double lock, the under thread is passed through twice. The knot stitch consists in tying half of a square knot, every stitch, the double knot is simply the tying of a whole square knot every stitch, the knot is drawn up in the cloth so that it leaves both sides alike, as also with all four stitches. Every second stitch in the double knot may be cut and not effect the others in the least.

"L. J." says the smooth surface feed does not need basting. As regards basting, the smooth and rough surfaced feeds are all alike; some kinds of material, are the better to be basted and some sew as well without. All can be sewed without. I take it "L. J." is Agent for West & Wilson's machines and wrote that piece to advertise them, without paying for it. He wants to know what kind of reaper is the best to purchase. (Why did he not ask long enough before harvest to get an answer.) I would say that there are three reapers, to-wit: "C. H. McCormick & Bro.'s," "Seymour & Morgan," and "Kirby," which take the lead at present, and are all good machines. Every machine has its friends, and it would be use-

less to try to convert any without they had a day's trial of each machine. I have used and seen used all named, and a great many others. My first choice would be a "McCormick," second, a "Kirby," and lastly, a "Seymour & Morgan." The "S. & M." is too heavy for one team, has a wooden "sickle or finger bar," and has more side draft than the others. The "McCormick" and "Kirby" both have iron finger beams, and both have the guards set with the points lower than the bar, which is very important in cutting grain that leans away from the machine, and in mowing. Two horses can work the two horse "McCormick" or "Kirby" very comfortably. The "Kirby" is the lightest machine, and is a most excellent one to work; but it cuts much narrower, and take it in every spot, it is not any easier for a team, from the fact that the "McC." has a castor wheel on the grain side, which in turning square corners and getting round stumps and stones, turns on its bearings and follows the machine without any difficulty, while the stationary wheel drags sideways, leaving a little ditch, and accumulating mud and straw between the wheel and machine. The "McC." finger bar is made out of the best "Sweeds" iron. The sickle is a self-sharpener, never needs grinding for reaping or mowing. The "McC." will cut 11¼ acres while the "Kirby" cuts 9½, letting the horses go at the same rate of speed. But the "McC." self-raker (4 horse) for 1862 throws everything into the shade. It is a new thing in the way of self-rake. The rake constitutes one wing of the reel, it rakes off every time the reel goes round, and leaves a very nice straight gavel; the gavel may be made larger or smaller by putting a larger or smaller pulley on the reel shaft. It works to perfection. The "Kirby" also has a self-rake, but the rake strikes into the grain after the old plan, while the other strikes square against the butt of the gavil and shoves it off. The "McC." *is not a horse killer*, as some assert. I would say to "L. J.," buy a "McCormick" self-raker every time; but *you will not get badly cheated if you buy a "Kirby."* I have not space to explain all about Threshers, Headers, Grain Drills, Cultivators, Broadcast Sowers, Rakes, Washing Machines, Wringing Machines, Coths Dryers, &c., &c.; *all of which ought to be talked up in the* FARMER. Will some one tell us something in regard to the "Binding Machine" advertised in the FARMER? Will it pay to take the FARMER? Will it *pay* to kill an Otter for his skin? Farmers, to the rescue!!

J. R. McLAUGHLIN.

PLAINVIEW, Minn., Aug. 21, 1862.

Sewing Machines.

We learn there are annually manufactured in this country seventy thousand sewing machines, which task the working energies of twelve or fourteen manufacturing establishments. This latest of inventions is really one of the greatest. It would be difficult to express the advantages that have been secured to families, to sewing women and girls, and to operators with the needle generally, by the timely introduction of this wonderful little machine. It eats up the piles of prepared cloth as if its hunger would never be satiated. It cheers lonely labor, and encourages the patient plodding worker, who has been accustomed to consume the midnight oil and nurse her solitary thoughts, to believe that there is help in this wide world even for her. A load of toil and care has been lifted from many a poor, burdened heart by the introduction of the sewing machine. Heaven bless the inventor, and prosper all who depend for a livelihood upon the invention!

THE "NEW IRONSIDES."—This iron-plated frigate, just completed in Philadelphia for the Government, and intended as a sea-going craft of marvelous power, both of offence and resistance, is now ready for duty. It is believed she is destined for Charleston harbor, where she will be likely to stand very much in the way of the rebel naval arrangements. Everything can be lowered beneath the deck in time of action even to the smoke-stack. She likewise carries two Parrott two-hundred pounders, capable of throwing their terrible shot a distance of six miles. We should have been more than astonished, a short year ago, to be told that so little time was going to work so great a revolution. But greater and more wonderful things, no doubt, are in store for us yet. We have not got to the end of our rope so soon. The day of wonders in material power has only dawned. This nation, crude as its character is as yet, is to lead the world in those grand arts, devices and ideas which imply the highest development of the faculties of the human race.

EDUCATIONAL.

The Agricultural College Act.

[As the majority of our readers are doubtless aware, the last Congress passed the Morrill bill for the endowment of Agricultural Colleges in the several States. Owing to absence in Europe, when the bill was approved no mention of the important fact has hitherto been made in the FARMER.

Having said much in times past as to the great importance of this measure, we have little to add on that behalf. As to the acceptance of the grant and the propriety of taking early steps towards the realization of the benefits of the act, we shall have something to say in our next.]

An Act donating Public Lands to the several States and Territories which may provide Colleges for the benefit of Agriculture and the Mechanic Arts.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there be granted to the several States, for the purpose hereinafter mentioned, an amount of public land, to be apportioned to each State, in quantity equal to 30,000 acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under the census of 1860: *Provided*, That no Mineral Lands shall be selected or purchased under the provisions of this act.

Sec. 2. *And be it further enacted*, That the land aforesaid after being surveyed, shall be apportioned to the several States in sections or subdivisions of sections not less than one quarter of a section; and whenever there are public lands in a State subject to sale at private entry at one dollar and twenty-five cents per acre, the quantity to which said State shall be entitled, shall be selected from such lands within the limits of such State, and the Secretary of the Interior is hereby directed to issue to each of the States in which there is not the quantity of public lands subject to sale at private entry at one dollar and twenty-five cents per acre, to which said State may be entitled under the provisions of this act, land scrip to the amount in acres for the deficiency of its distributive share; said scrip to be sold by said State, and the proceeds thereof applied to the uses and purposes prescribed in this act, and for no other uses or purposes whatsoever: *Provided*, That in no case shall any State to which land scrip may be thus issued be allowed to locate the same within the limits of any other State, or of any Territory of the United States, but their assignees may thus locate said land scrip upon any of the unappropriated lands of the United States subject to sale at private entry at one dollar and twenty-five cents per acre. *And provided further*, That not more than one million acres shall be located by such assignees in any one of the States. *And provided further*, That no such locations shall be made before one year from the passage of this act.

Sec. 3. *And be it further enacted*, That all the expenses of management and superintendence and taxes from date of selection of said lands, previous to their sale, and all expenses incurred in the management and disbursement of the moneys which may be received therefrom, shall be paid by the States to which they belong out of the treasury of the States, so that the entire proceeds of the sale of said lands shall be applied, without any diminution whatever, to the purposes hereinafter mentioned.

Sec. 4. *And be it further enacted*, That all moneys derived from the sale of lands aforesaid, by the States to which lands are apportioned, and from the sales of land scrip hereinbefore provided for, shall be invested in stocks of the United States, or of the States, or some other safe stocks, yielding not less than five per centum upon the par value of said stocks; and that the money so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished, (except so far as may be provided in section fifth of this act,) and the interest of which shall be inviolably appropriated, by each State which may take and claim the benefit of this act, to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to Agriculture and the Mechanic Arts, in such manner as the legislature of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

Sec. 5. *And be it further enacted*, That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by legislative acts.

First, If any portion of the fund invested, as provided by the foregoing section, or any portion of the interest thereon, shall, by any action or contingency, be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished; and the annual interest shall be regularly applied without diminution to the purposes mentioned in the fourth section of this act, except that a sum, not exceeding ten per centum upon the amount received by any State under the provisions of this act, by be expended for the purchase of lands for sites or experimental farms, whenev-

er authorized by the respective Legislatures of said States.

Second, No portion of said fund, nor the interest thereon, shall be applied, directly or indirectly, under any pretence whatever, to the purchase, erection, preservation or repair of any building or buildings.

Third, Any State which may take and claim the benefit of the provisions of this act shall provide within five years, at least not less than one college, as described in the fourth section of this act, or the grant to such State shall cease; and said State shall be bound to pay the United States the amount received of lands previously sold, and the title to purchase under the State shall be valid.

Fourth, An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their cost and results, and such other matters, including State industrial and economical statistics, as may be supposed useful; one copy of which shall be transmitted by mail free, by each, to all the other colleges which may be endowed under the provisions of this act, and also one copy to the Secretary of the Interior.

Fifth, When lands shall be selected from those which have been raised to double the minimum price, in consequence of railroad grants, they shall be computed to the States at the maximum price, and the number of acres proportionally diminished.

Sixth, No State, while in a condition of rebellion or insurrection against the Government of the United States, shall be entitled to the benefit of this act.

Seventh, No State shall be entitled to the benefit of this act unless it shall express its acceptance thereof by its Legislature within two years from the date of its approval by the President.

Sec. 6. *And be it further enacted*, That land scrip issued under the provisions of this act, shall not be subject to location until after the first day of January, 1863.

Sec. 7. *And be it further enacted*, That the land officers shall receive the same fees for locating land scrip issued under the provisions of this act as is now allowed for the location of military bounty land warrants under existing laws: *Provided*, Their maximum compensation shall not be thereby increased.

Sec. 8. *And be it further enacted*, That the Governors of the several States to which scrip shall be issued under this act, shall be required to report annually to Congress all sales made of such scrip until the whole shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

☞ There are now in Europe some 500 industrial schools and colleges of different grades, and the number is constantly increasing.

[From the Wisconsin Journal of Education.]

America and American Schools upheld in England.

[Some of our readers, who are also readers of the *Wisconsin Farmer*, will remember that the Editor, Dr. J. W. Hoyt, in one of his letters written from England, while there the past summer as Commissioner to the Great International Exhibition, expressed his conviction, based on frequent conversation with people of all classes, that the sentiment of that country is generally in favor of the South, in the contest now raging in our own unhappy land.—This only adds to the proofs which we already possessed, that we must rely upon ourselves, under God, to work out our destiny and our national salvation.

But we take pleasure in transferring to our pages, a speech of Dr. Hoyt, at a celebration of the Fourth of July in London, by a large number of Americans resident or visiting in England. The speech is contained in the Report of the Celebration, published in the *London American*, of July 9th, and was in response to a toast of our American "Free School System." Among the many things in this country in regard to which Englishmen are generally ignorant, is our magnificent provision for Common Schools and general education; may they learn a new lesson from this timely speech, in regard to one of the causes of the past growth and prosperity of our free States, and of the delusion of the people of the Southern States in being led into this fearful rebellion.]

"The next regular toast, 'Our Free School System the Republic's necessity, guide and protection,' called up Professor J. W. Hoyt, Secretary of the Wisconsin State Agricultural Society and editor of the Madison *Farmer*, to reply.

The Professor said—Mr. Chairman, ladies, and gentlemen: While I regret my inability, on the present occasion, to do justice to the great theme involved in the sentiment to which I have the honor to respond, I cannot but admire that sense of fitness which dictated so prominent a recognition of the noble system of free and universal education which so peculiarly and proudly distinguishes the land whose first national glory we commemorate this day. For, as I understand the free institutions of which we boast, and the elements of their perpetuity, they are all primarily and chiefly dependent upon the intelligence and virtue of the people. In a country whose government is either purely monarchical or aristocratic—in which the people have little or nothing to do with the government, whose character and perpetuity may be quite independent of any intelligence or ignorance of theirs—it is not so imperative, in order to the judicious and beneficent administration of public affairs and to the stability of the government, that the whole people be intelligent. But in a Republic like ours, where every man is, in the-

ory, an embryo statesman, actual sovereign, and possible ruler, the Government can only be wise, beneficent, and stable, in proportion as it rests upon the intelligence and virtue of the whole body of the people.

Education, then, intellectual and moral, must constitute the only sure foundation of every Republic. But there are additional and special reasons why some general plan for the education of the people should have been adopted by the American Republic. In the first place, no other nation in all history has had such a material endowment. Its territory comprises a portion of the earth abounding more than any other in all the natural sources of wealth and power, while its climate is at once the most congenial to human life, and the most productive of all that is materially essential to human happiness. It came to us, moreover, an inheritance unincumbered—a gift of virgin soil and primeval forest, fresh from the hand of God, prepared as if especially for the unembarassed trial of new and better institutions than the old and fettered world would have been able to secure. All this natural wealth indicates clearly that America is destined to lead in the civilization of the world, and, hence, demands a corresponding superiority of intelligence on the part of the people. Nor is the peculiarity of our position and character, as a nation and government, confined to this wonderful material endowment: the character of our people is, and, of necessity, must be peculiar. With a predominance of the Anglo-Saxon, there is a mingling of all other races, constituting us by far the most composite people on the earth—a most remarkable mosaic of all peoples and kindreds, destined, under the influence of the attritional forces of active business and social intercourse, to be ground and cemented together into one homogeneous, and, as I think, complete ideal race. This may justly be deemed the most significant fact of American civilization. But this process of blending is not without its dangers to the Government. The multitudes of people who come to us every year from other shores, bring with them old prejudices and habits of thought, and a total ignorance, often, of the first principles of the Republic, under which they are soon to be clothed with the immunities and powers of equal citizens, and it is therefore of the most vital importance that there be some available and all-potent safeguard for the conservation of this Republic in all its original freedom and purity. To this end, nothing will answer but the liberal education of all who are destined to exert an influence—as every individual in society must—upon the character of the Government. The immense tide of ignorance and prejudice, to which I have referred, can be successfully met and controlled in no other way. Happily for our country, this great truth was well appreciated by the earlier statesmen of America, who, in providing for the disposition of the vast public domain, with a wise forecast which alike challenges our admiration and gratitude, inaugurated the policy of setting apart a portion of the unoccupied lands for the equal and impartial education of every child, whether native or immigrant, that might choose to avail itself of this rich legacy.

And in that portion of the United States where the theory of universal education has been approved and practically regarded as compatible with other cherished institutions, the free common school, the free academy, and even the free college, have become the all-common and most cherished institutions of the country; so that to-day there is scarcely a child in the whole North, no matter what its origin, sex, color or condition, that may not enjoy the blessings of a liberal education.—This is one of the noblest of the many admirable features which so distinctively characterize the better portion of the American nation; and that we may know how high an appreciation to put upon it, we have only to contrast the history and present position of the two sections of the country where educational institutions have and where they have not been established and cherished, as essential to the well-being of society and the security of the Government.

In the free Northern States it has been the policy, without an exception, to provide every neighborhood with the best possible educational facilities; and it is in those States that the arts and sciences have flourished—that have originated those wonderful inventions and discoveries which have given lustre to the American name and helped the world forward in the grand march of civilization—that religion has flourished and made most progress in ridding itself of the deep prejudices and absurd dogmas which characterized its history in earlier and ruder times—that literature has established itself—and there, and there alone, that freedom of speech and of the press have been secure, and that order and loyalty have always prevailed. While in the States of the South it has been the policy to keep out the light of knowledge from the masses of the people, and to educate only the aristocratic few. And it is there that darkness, and ignorance, and stagnation have brooded over the community—that religion has been bound hand and foot, and basely subordinated to, and made supportive of, the worst of all human crimes—that those sacred institutions, free speech, a free press, and a free ballot, have ever been held in terror of violence—that loyalty has been a mere caprice and whim—there that the basest treason and rebellion the world ever saw are to-day in open and bloody defiance of the most just and equal laws and the most benign Government ever devised. But a few years since a governor of the "Old Dominion" thanked God that there were no free schools, and but few newspapers in Virginia. To-day we be-

hold the fruits of that policy of which he then made his shameless boast. The conflict now so fiercely raging between the two sections of our beloved country is really a conflict between Intelligence and Virtue and the demon of Ignorance. I cannot believe that the whole body of our brethren of the South are literally devils incarnate! Nay, my charity prompts me to believe that the masses err through blindness and a fierce prejudice born of ignorance. The stars of that glorious old flag of the Union, which has for eighty-six years been the pride of Americans and the admiration of the world, as an emblem of unparalleled progress in all material things, and of the intellectual and social advancement of a new and wonderful people, have not shed their radiant light upon the dark and prejudiced South as they have shined into the open heart and mind of the free North. This is the explanation of how they have been led on by wicked and traitorous leaders to defy its authority; nay, even to assault and trail it in the dust. And this is the reason why I am sure that the rebellion and the establishment of the so-called "Southern Confederacy" cannot succeed. For if it be true that "no truly enlightened people can be enslaved,,' so is it equally true that no government originating in ignorance, fraud, and cruelty, and choosing the "sum of all villanies" for its "chief corner stone," may rationally hope for even temporary prosperity, much less for stability and permanency of existence.

I cannot believe, therefore, that the sham government which these traitorous leaders and blinded people propose for themselves could last fifty years, if once established to their liking. Its very foundation being in defiance of the sentiment of the whole Christian world, nay, an attempted constitutional abrogation of a primary law of the Almighty, it is utterly impossible that any superstructure which they might attempt to rear upon that worse than rotten foundation should have any sort of perpetuity. I say again, it is for these reasons, or, in other words, because I believe in God and in the omnipotence of Right, that I have a strong and abiding faith in the future of the American Republic and of the American Union. There is but one thing which this moment stands in the way of harmony and absolute union, und that, I have already said, is as surely doomed as if God had visibly sealed its death-warrant.

There is nothing in the Southern Rebellion which should be thought to cast a shadow of doubt upon the soundness of the Republican Idea; nothing whatever. The monarchists of Europe affect to see something of this sort, and wisely shake their heads at the "failure of the great American experiment;" but they do not themselves believe it, and only seek, by a creation of their own fancy, to frighten the restive, thinking people into quiet submission to the established government of the one or the few.

I believe as firmly to-day as I did five years ago that the year 1900 will find us one people—our population increased to nearly an hundred millions—many new stars added to the old Flag, thrice glorious and thrice loved for the precious blood it will have cost and the victories won—our agriculture vastly more productive than now—our workshops comparing in number, as now in the character of their products, with the first nations in the world—our commerce the peaceful and beneficent mistress of the seas; and instead of lamenting, as do some, to whom life is of more worth than liberty and country, that the Government did not yield up everything, and permit the unimpeded separation of the Southern States, I, on the contrary, most earnestly thank God that there was virtue enough in the Government and in the intelligent people of the North to resist the demands and to punish the aggressions of the Slave power. In the light of this philosophy American Liberty has seemed to me

"Never so fair
As now, from east to western main,
Lighting her camp-fires everywhere,
Her ancient glories to regain."

But there will come yet other trials of the Government—trials which may be real tests of the Republican Principle. Some of these we had already begun to feel, ere the crisis into which the madness of the South has plunged our country. I refer to the dangers which grow out of a rapid increase in material prosperity and political power. Private reckless extravagance and public corruption are the natural fruit of successes such as we have had in the past, and there is nothing but the conservative influence of a universally-diffused intelligence and genuine morality, that can possibly save us from the sad wreck, of which other attempting republics are a solemn warning. Let us then cherish with a jealous care this inestimable, elevating, ennobling, conservative power, the free schools of our country, and so make the American Republic a sure and blessed beacon to all the struggling nations of the earth for all time to come.

Madison Normal and High School.—We are pleased to learn that the above institution, recently established by Prof. Chas. H. Allen, who for the past two or three years has labored so zealously and efficiently as the Agent of the Normal School Board, has commenced its first term with some seventy-five or eighty pupils.

This is certainly a fine beginning, and we hope that this will prove only an earnest of what the school is to be. Prof. Allen has had much experience as a teacher, and in this new field is likely to be eminently successful.

THE HOME.

The Crooked Footpath.

BY DR. O. W. HOLMES.

Ah, here it is! the sliding rail
That marks the old remembered spot,
The gap that struck our school-boy trail,
The crooked path across the lot.

It left the road by school and church,
A pencilled shadow, nothing more,
That parted from the silver birch,
And ended at the farm-house door.

No line or compass traced its plan;
With frequent bends to left or right,
In aimless wayward curves it ran,
But always kept the door in sight.

The gabled porch, with woodbine green,
The broken millstone at the sill,
Though many a road might stretch between,
The truant child could see them still.

No rocks across the pathway lie,
No fallen trunk is o'er it thrown,
And yet it winds, we know not why,
And turns as if for tree or stone.

Perhaps some lover trod the way
With shaking knees and leaping heart—
And so it often runs astray
With sinuous sweep or sudden start.

Or one, perchance with clouded brain,
From some unholy banquet reeled,
And since, our devious steps maintain
His track across the trodden field.

Nay, deem not thus, no earthborn will
Could ever trace a faultless line;
Our truest steps are human still,
To walk unswerving were divine!

Truants from love, we dream of wrath;
O, rather let me trust the more!
Through all the wanderings of the path,
We still can see our father's door.

The Good and Brave die not.

The following beautiful and eloquent peroration of a speech recently made by Gov. Andrews of Massachusetts, at a Methodist camp meeting, is a noble utterance of the sentiments of every patriot, and sufficiently explains the strong hold of their noble author upon the popular heart of that ancient and patriotic commonwealth:

"I have, during the last few months, over and over again marched, a stricken mourner, by the side of those whose hearts were torn by natural grief as the mortal remains were consigned to their last resting place of many of our brave New England boys. Oh! fathers, mothers, brothers, sisters wives, children, is it possible that you shall be left hereafter this unconsoled sorrow that they fell in vain, and their blood was poured out for nought? No, sirs, such boys as Willie Putnam and Fraser Stearns, such sisters as some of those New England girls with whom I have talked, with whom I have walked to the grave, in whose ears I have tried to address feeble words of consolation; such girls as have said to me, 'We thanked you when six months ago you gave my brother a commission to go to the war and we thank you now' are too precious to be wasted. They are on the field of Ball's Bluff, by the banks of Bull Run, in the swamps of the Chickahominy, down along our sea-coast line, before Charleston, at Hilton Head, all around to New Orleans, upon the Mississippi, on the field of Shiloh,, wheresoever the sword has been drawn, there have either stood the regiments or the single sons of our Massachusetts—brave and noble boys, men who went out from no love of vulgar glory, inspired by no pursuit of plunder, by no pursuit of a warrior's renown, not fired by any mean ambition, but by a hope that by the valor of their hearts and by the vigor of their own right arms they may do something for their country.

They shall not die! Their memories shall live green and beautiful forever in the hearts of their countrymen, and the spirit which their courage has inspired shall be transferred to other sons of New England now rising to assume their cause, and 600,000 march from out of the homes of loyal States, from the Atlantic border to the Rocky Mountains, and that grand host shall stand in the ranks of the free, for the cause of their country, for the vindication of their country's power, there shall stand with them an unseen host of glorious spirits of noble, heroic, departed men—they who have crossed the flood, they who have stemmed the torrent of the battle-field—and as they went down, their fair forms sinking beneath the sod, their spirits rose above disenchanted, like the souls of men when delivered from the castles of giants. They, too,

—'shall file to the front when the squares of battle form
They shall file with the column and charge with the storm
As men are marching on.

Ah! foul traitors, do you hear them as they come
With the thunder of the cannon and rolling of the drum
When God is marching on!'"

Things to be Remembered.

☞ To communicate happiness is worthy the ambition of beings superior to man; for it is a first principle of action with the author of all existence. It was God that taught it as a virtue, and it is God that gives the example. —*Langhorne.*

How true this is.—"It is not work that kills men; it is *worry*. Work is healthy; you can put more on a man than he can bear. It is not the revolution that destroys the machinery, but the friction, Fear secretes acids; but love and trust are sweet juices."

The Mischief Maker.—When the absent are spoken of, some will speak gold of them, some silver, some iron, some lead, and some will always speak dirt, for they have a natural attraction towards what is evil, and think it shows penetration in them. As a cat watching

for mice does not look up though an elephant goes by, so they are so busy mousing for defects, that they let great excellencies pass unnoticed.—*Henry Ward Beecher.*

A GOOD CHARACTER.—The character is like white paper; if once blotted, it can hardly ever be made to appear as white as before. One wrong step often stains the charaeter for life. It is much easier to form a good character at first, than it is to do it after we have acquired a bad one;—to preserve the character pure, than to purify it after it has become defiled.—Parents, these are sacred truths, and God will hold you responsible for their application.

HEALTH AND DISEASE.

Our Teeth.

They decay. Hence, unseemly mouths, bad breath, imperfect mastication. Everybody regrets it. Weat is the cause? I reply, want of cleanliness. A clean tooth never decays. The mouth is a warm place—98 degrees. Particles of meat between the the teeth soon decompose. Gum and teeth must suffer.

Perfect cleanliness will preserve the teeth to old age. How shall it be secured? Use a quill pick, and rinse the mouth after eating.—Brush and Castile soap every morning; the brush and simple water on going to bed. Bestow this trifling care upon your precious teeth, and you will keep them and ruin the dentists. Neglect it, and you will be sorry all your lives. Children forget. Watch them. The first teeth determine the character of the second set.—Give them equal care.

Sugar, acids, saleratus, and hot things are nothing when compared with food decomposing between the teeth. Mercurialization may loosen the teeth, long use may wear then out, but keep them clean, and they will never decay. This advice is worth mope than thousands of dollars to every boy and girl.

Books have been written on the subject.—This brief article contains all that is essential. —*Dr. Lewis.*

"IT'S ONLY A COLD."—True, but do you not know that half the diseases and deaths that rob life of much of its enjoyment, and society of many of its most useful members, originated in nothing but colds? A cold is no trifling thing, and voluntary or careless exposure is criminal.

"LAUGH AND GROW FAT."—I live in a constant endeavor to fence against the infirmities of ill health, and other evils of life, by mirth; being firmly persuaded that every time a man smiles—but much more when he laughs—it adds something to this fragment of life.—*Sterne.*

DOMESTIC ECONOMY.

Excellent Recipe for Graham Bread.

Three tea-cups buttermilk, one half cup molasses, one table-spoonful salt, one and one half tea spoons saleratus, well pulverized. It should be stirred a very little thicker than a common cake, put into a bread-tin; let it stand and rise until it has the appearance of being light (which every good housewife can tell), when it is ready for the oven. When first put in it requires a quick oven; afterward a moderate one. Bake half an hour. The flour should always be sifted. R. K.

[The good lady whose experience is embodied in the above, gave us to eat of this bread; and never before had we tasted anything more delicious.]

YOUTH'S CORNER.

All about my Friends.—No. 2.

Next after the mouse, came a bobtailed chipmuck, and took up his abode under the platform over the well, whence he would make excursions all about the yard, and garden, and into the woodshed, where he would help himself to all that he wanted of the chicken feed; and making occasional forays into the house. Sometimes he would amuse himself and me by climbing up on to the window sill, where he would sit and peer inside. Again he would please himself and *vex* me, by digging the peas and pop corn, planted in the garden.

A favorite place of Bob's is on the top of the well-house, where, of a sunshiny day, he will cock himself while he nibbled his dinner, holding it with his paws, meanwhile making an occasional chip—chip, and if suddenly frightened, he will scamper cown and hide, and then he will say: "chiparee-chiparee-tschick-tschick-chip." When cherries were ripe he would come into the house and pilfer away all he could get, and when he could not get cherries, he would content himself with the pits, with which he would stuff his mouth till his cheeks stuck out round as a pumpkin. Next he feasted on raspberries, and then gooseber-

rice, then plums, and now he busies himself with lugging buckwheat from a field near by. Soon, I expect, he will be helping himself to hickory nuts, which are growing on a tree in the yard. Sometimes, after his day's work is done, he will sit by the half-hour, and say "chuck-chuck-chuck," occasionally stopping to clean his fur. UNCLE WILLIAM.

Sept. 15.

Stories about Children and Things in Foreign Lands.

Our little readers must not suppose that the Editor of the *Farmer* has left them entirely out of mind during this long absence in the many strange lands through which he has traveled on the other side of the great sea. No, indeed! he has thought of them many times, and laid up in his memory strange stories—some of them sad, and some beautiful—about wondrous things and the lives of children, in all those countries which lie on the western side of the European continent. Indeed, we would have told them a story this month about *Crossing the Sea*, only that we have been very busy, since getting home, and thought they would wait until November.

Mrs. Hoyt, too, who has written you so many pretty poems and given you such good advice in all the past years, but who has been a long time sick and unable to write, will soon be well again, and delight you with new songs and thrilling stories about war life in the mountains of Virginia, where she has spent a part of the summer, and the wilds of Kansas, where she now is. With such a world of good things in store, we are sure that you will thank "Uncle William" for the pleasing stories he has been telling you, and patiently wait.

We Frame Our Own Characters.

We shape ourselves the joy or fear
Of which the coming life is made,
And fill our future's atmosphere
With sunshine or with shade.

The tissue of the life to be,
We weave with colors all our own,
And in the field of Destiny
We reap as we have sown.

Children, let the truth of these lines never go out of your minds.

WAR MISCELLANY.

The Battle Autumn of 1862.

BY JOHN G. WHITTIER.

The flags of war like storm-birds fly,
The charging trumpets blow;
Yet rolls on thunder in the sky,
No earthquake strives below.

And, calm and patient, Nature keeps
Her ancient promise well
Though o'er her bloom and greenness sweeps
The battle's breath of hell.

And still she walks in golden hours
Through harvest-happy farms,
And still she wears her fruits and flowers
Like jewels on her arms.

What mean the gladness of the plain,
This joy of eve and morn,
The mirth that shakes the beard of grain
And yellow locks of corn?

Ah! eyes may well be full of tears,
And hearts with hate are hot;
But even-paced come round the years,
And Nature changes not.

She meets with smiles our bitter grief,
With songs our groans of pain;
She mocks with tint of flower and leaf
The war-field's crimson stain.

Still, in the cannon's pause, we hear
Her sweet thanksgiving psalm;
Too near to God for doubt or fear,
She shares the eternal calm.

She knows the seed lies safe below
The fires that blast and burn;
For all the tears of blood we sow
She waits the rich return.

She sees with clearer eye than ours
The good of suffering born—
The hearts that blossom like her flowers
And ripen like her corn.

Oh, give to us, in times like these,
The vision of her eyes;
And make her fields and fruited trees
Our golden prophecies!

Oh, give to us her finer ear!
Above this stormy din,
We, too, would hear the bells of cheer
Ring peace and freedom in!

—*Atlantic Monthly for October.*

General Banks.

Major-General Nathaniel Prentiss Banks, of whom the above is a correct wood-cut representation, was born in Waltham, Mass., Jan. 30, 1816. Of his early history and subsequent career, the American Cyclopedia gives the following account:

"With no other opportunities of early education than the common schools of New England, he was placed, as soon as he could be of service, at work in a cotton factory, in his native village, by his father, who was the overseer, and afterward learned the machinists trade. Literary aspirations came upon him in connection with the representation of a dramatic company formed among his associates, with whom he played the principal parts with such promise as to have had inducements offered him to adopt an actor's career by profession. Choosing, however, another stage, he lectured before political meetings, lyceums and temperance societies, and afterwards became Editor of the village paper of his native place.

Entering thus upon the field of politics, he received an office under the Polk administration, in the Boston Custom House, and was in request in the Democratic party as a speaker of their political meetings. He was elected to the House of Representatives of Massachusetts for 1849, and is entered on the roll of members as a "machinist." The next year he appears as a lawyer.

In 1851, he was chosen Speaker of the House, as one of the prominent advocates of the "coalation" between the Democrats and the Free-willers, by which the ancient rule of the Whigs was overthrown in Massachusetts. He was again elected the following year by the same coalescing vote, and also representative to the ensuing Congress. In the summer of 1853, he was President of the Conveution called to revise the Constitution of the State.

During his first term, having withdrawn his adhesion to the Democratic party, and voting against the passage of the Kansas Nebraska bill, although he voted for taking it up, he was re-elected to Congress, in 1854, with the support of the "Know-Nothing" or American and Republican parties, and at its meeting in Dec., in consequence of his high reputation as a presiding officer, adopted as the candidate of the latter for the Speakership, and elected by a plurality vote, after a contest of more than two months, and over a hundred ballots for a majority as required by the standing rules of

the House. But at the close of this Congress, a handsome vote of thanks was passed upon the generally acceptable manner in which the more than ordinarily difficult duties of that position had been performed. He was a member of the next Congress, and nominated in separate conventions of the American and Republican parties for the office of Governor of Massachusetts, to which he was elected in November, 1857."

In the office of Governor he served his native State very acceptably, but in the year 1860, with a view to bettering his financial condition, accepted the position of Vice President and acting manager of the Illinois Central R. R., and in the autumn of that year removed to Chicago. He was in the discharge of these arduous and responsible duties when, at the opening of the War of the Rebellion, the President nominated him a Major-General and assigned him an important command at Baltimore, where he remained to the great advantage of the Union cause until July 19, 1861, when he was transferred to the command of forces on the Upper Potomac.

Since that time he has ably and faithfully served his country in many trying positions, and is one of the few Generals now in the service who have not, for some omission or serious blunder, justly suffered the reproach and condemnation of the army and people.—Discretion, steadiness, perseverence, energy, heroic courage and a faithful loyalty in the discharge of whatever duties may be assigned him, to the very best of his ability have thus far characterized his career as a soldier. These are also characteristics which would eminently fit him for the discharge of the duties of Secretary of War, and if the able and energetic Stanton should resign, as it is rumored he designs doing, it is not at all improbable that Gen. Banks may be appointed to succeed him in that important office.

THE ENEMY'S LOSS.—It is a great weakness and the best evidence of weakness for leaders or people to be always under-estimating their own losses in battle, and over-estimating the loss of the enemy. Our newspaper reporters, private soldiers, army officers, and the whole people are shamefully guilty of this weakness.

NEWS SUMMARY.

The War for the Union.—Since the issue of our last number, several of the most important and bloody battles of the whole war have been fought in the East—the first series by Gen. Pope, at, and in the neighborhood of, Bull Run, resulting in great slaughter on both sides and the final retreat of the Union army upon Washington—the second series by McClellan, in Maryland, compelling the invading force under Jackson, Hill, & Co., to retreat across the Potomac, with an immense loss of men and munitions.

This last series of battles was at first reported a great victory for the Union arms and the whole North has echoed with rejoicing. But since the clearing away of the smoke, and the more careful investigation of the affair, it has been made to appear a bare victory, and nothing more. Our loss of officers and men was fearful. and the enemy are again at bay at Winchester, which has been assumed as their new base of operations. During the contest Harper's Ferry was captured by the rebels with ten thousand men, under command of Gen. Miles, who surrendered in a most cowardly manner. He promptly met his reward, however, in the form of a cannon shot, and the place was soon after retaken by our army which still holds it. The Maryland raid was a failure on the part of the enemy, who expected a general uprising of the people of that doubtful State; but our own ground for mortification is scarcely less, for that we did not cut off their retreat and utterly destroy them.

All in all, the enemy have decidedly got the better of us in Virginia, and we scarcely hold a position in that State which has, at present, anything like a sense of security.

In Kentucky, Tennessee and Arkansas several captures have been made by the enemy of places but recently in our possession. Baton Rouge, the capital of Louisiana, came near being taken by the arch traitor Breckenriege; most of the interior towns of Kentucky have been relinquished to the enemy, and a half

dozen times the border cities, Louisville, Covington, and Cincinnati have been boldly threatened by his armies. Large bodies of troops have been massed at those places, however, and they are now (Sept. 30) regarded as safe.

But the great event of the month, indeed the event of the war, has been the issuance of a proclamation by the President, declaring the slaves of all the States which may be in rebellion against the Government on the 1st day of January, 1863, forever free. This proclamation provides, however, that all persons within the said rebellious States who may be able to establish their loyalty shall, after the war, be compensated for their loss. The acquiescence in the proclamation is almost universal in the loyal States, while in some of them it has been received with great enthusiasm.

The war upon and among the Generals still goes on—alternations and shiftings of commanders, annihilations and recreations of departments being the order of the day. Gen. McClellan is in command of the defences of Washington; Gen. Pope has been transferred to the new department of the Northwest; Gen. Mitchell has been assigned to Beaufort; and Gen. Sigel has made application to be relieved of his command, for reasons, which if well established, must fix upon the Administration, or rather upon the President's immediate subordinates, a burning disgrace.

A General should be *esteemed* for his moral and intellectual worth, his skill as a commander, and his energetic devotion to the progress of the war—not because he has been educated at West Point, or was born in America.

In Minnesota the Sioux Indians, instigated by Rebel emissaries, have committed the most fearful outrages—burning villages, butchering the populace and carrying some hundreds of the women into captivity. History has recorded no atrocities more infernal than some of those, which upon good authority, are attributed to this warlike tribe. Gen. Pope is at St. Paul, preparing measures of extermination, and several Wisconsin regiments have been ordered to that post. With the Chippewas, Governor Ramsay has succeeded in forming a treaty of perpetual peace.

DOINGS OF AGRICULTURAL SOCIETIES.

Walworth County Fair.—ELKHORN, Sept. 10—12 M.—*Dear Doctor:*—Here I am, industriously elbowing my way through a "big" crowd to get to the place where tickets are sold to the show of pumpkins, squashes and other solid rations.

Change has been distinctly *minus* here for an indefinite period, and the postal currency has not yet made its appearance, I learn upon presentation of a bill—but the gentlemanly Secretary relieves me of further anxiety by passing out a "complimentary." Having gained admission to the grounds, I find myself ushered in among a mass of people, evidently intent upon sight-seeing and concentrated enjoyment. A crowd of people, gathered around the speaker's stand, attracted my attention. The Annual Address was being delivered by Col. Meecham of Rockford, Illinois. Gov. Salomon, who was engaged for the occasion, being occupied with the duties of State. The address was suited to the occasion, sensible and practical, with much timely advice to the tillers of the soil.

After the feast of reason, the question of *provinder* required—and secured, as the "Congregational Society" will testify—my next most hearty consideration.

Dinner over, I went out in search of a familiar face, and soon encountered the President, Mr. Preston, who was making himself omnipresent as fast as possible, during the progress of the Fair, to the intent that the arrangements might conduce to the comfort and pleasure of the exhibitors and spectators. For this gala day of mingled sight-seeing and social reunion, the Walworth folks are largely indebted to the enterprise and pluckiness of the President and Secretary.

I appointed myself a committee of one to inspect the articles on exhibition. I can't say that my deliberate judgment harmonized with that of the respective Viewing Committee in all cases. I was forcibly struck, however, with the fact that this was no mean exhibition for the times, when the excitement, incident to the peculiar crisis in military affairs, was distracing the public mind. The great feature of the Fair, however, was the "big" crowd, and I was sensibly impressed with the preponderance of good looking ladies. I should have counted it no loss, if this had been my only compensation for coming hither.

The Fair, which was begun so auspiciously on Tuesday, and continued with uninterrupted pleasure and satisfaction through Wednesday, was not destined to so gladsome a terminus. In the evening of Wednesday, ominous clouds hung in the horizon. A thunder shower was imminent. It came, and left only mud and an unpleasant precedent to spice the next day's entertainment. The anticipated multitude found it more to their inclination to stay at home on Thursday.

Ladies Equestrian Display was made the special order at 11 A. M. There were three competitors, and three premiums offered; hence each one felt confident of a premium. They all displayed much ease in managing their horses, and grace in their manoeuvres.

Then came the Trotting. Time as follows:

FIRST CLASS—STALLIONS.

"Gray Eagle," C. W. Phillips, Delavan, 2:32¼-2:22-2:22—$15.

"Brown Tiger," S. H. Stafford, Geneva, 2:31-2:28-2:28—$10.

SECOND CLASS—MARES AND GELDINGS.

"Guy Shoemaker," S. B. Owen, Geneva, 2:34-2:28-2:31—$15.

"Snapp," A. Hastings, Geneva, 2:44-2:43-2:46—$10.

The Committees of Judges having finished their labors, and passed the books into the hands of the Secretary, the awards were announced from the speaker's stand.

In the class "Durhams," Messrs. Fernly and Perry had some fine stock and swept the premium list. Our friend Brooks of Durham notoriety, whose stock receives so much attention at the Fairs, did not enter the list of competitors.

In class "Devons," Messrs. Richmond, Taggart and Foster, were the principal exhibitors. Mr. J. Foster, Sugar Creek, had a very fine cow and calf, which would be hard to beat.

In class "Grades," the exhibition was large. A pen of Grade Devon heifers, stock of A. H. Taggart, Delavan, attracted much notice.

In class "Working Oxen," Messrs. Foster and Taggart had the best.

The show in department "Horses and Mules," was fair.

In the department of "Fine Wool Sheep," the show was large. Messrs. Bloodgood, Cross, Holden, Blount, Rice and Taylor, who were the chief competitors, had some fine stock. Coarse wool bucks were exhibited by Messrs. Smith and Young.

In department "Swine," there was not a very large show. Edwards, Jeffers and Dunbar were exhibitors in this class.

In the department "Farm Products," some fine samples of wheat, oats and corn were on exhibition. The white winter wheat and white Poland oats, were especially fine. Large potatoes, beets, onions, pumpkins, squashes, turnips and carrots filled up the tables.

In class "Farm Implements," there was a meagre show. A reaper, (J. P. Manny's) a mower, (Buck-eye) plow, and corn plow constituted the *summa summarum*.

Department "Household Manufactures" was well stocked with carpetings, bed spreads, clothes and embroidery.

Wagons and Carriages were exhibited by Isham and Sturtevant.

FRUITS AND WINES.

Messrs. Babcock and Tubbs had the best show of fruits of all kinds. No pears on exhibition. Mr. Coburn had the only specimen of plums, which were handsome and delicious. Mr. Congar of Whitewater, had handsome specimens of the Delaware grape. The Committee did not find a great variety of wines, but gave the samples on exhibition proper attention.

The show in the department of Fine Arts was rather limited in quantity, but excellent in quality. There were some choice paintings—Landscape, Portrait, Oriental and Crayon.

The show of Flowers was small. There were a few choice boquets. A flat boquet exhibited by R. Coburn, was meritorious.

There were nearly 600 entries by 209 exhibitors.

I am informed that the receipts amounted to over $1,200.

But for the last day's rain, the Fair would have been pleasant throughout. C.

La Crosse Co. Fair.—Left Madison at 10 o'clock P. M. of Thursday, and after a most tedious round *via* Milton and Minnesota Junction and a weary forenoon on that most illiberal of all Western thoroughfares, the Milwaukee and Minnesota R. R., arrived at the pleasant little village of West Salem, the location of the La Crosse County Fair.

The exhibition had been in progress two and a half days, with delightful weather and a large attendance of enterprising people from all parts of the County. Of the show itself—except the masquerade mule race, which was extremely funny—we feel hardly competent to speak, owing to the fact that the greater part of what had been on exhibition had been removed previous to the late hour of our inspection. We nevertheless, found, in addition to fine samples of wheat, corn, potatoes, pumpkins, &c., &c., in Agricultural Hall, several pens of fine sheep, a few good grade and half blood cattle and a number of excellent horses. Among the latter, two colts exhibited by Rev. W. H. Card, pastor of the Baptist Church, were particularly worthy of notice. One of them, a Morgan of three years, is a fair copy of his paternal ancestor, the Great Gifford, and the other, a two year old, of Black Hawk, and pure English blood, is one of the finest colts that we have seen in the West, or anywhere else. Both are stallions, and will doubtless be liberally used by the enterprising farmers of La Crosse for the improvement of their stock of horses.

It afforded us great pleasure to witness the many evidences of thrift on the part of this young Society. The worthy President and Secretary, Messrs. Fourtelotte and Harwood are able, zealous and popular officers, and the other officiary and members seem to be equally determined to carry forward the good work of developing the industrial resources of the County with spirit and energy.

The Grounds occupied by the Society are handsomely and centrally located, neatly fenced and provided with a good trotting course. "Agricultural and Mechanical Hall" is a large, new two story building, well adapted to the objects of the exhibition, and also susceptible of use as a public hall for the gatherings of the people.

Our address, on the relation of Agriculture to the success and prosperity of the American Government, was attentively listened to by an audience of two thousand people, worthy representatives of the thrift, intelligence, beauty and energy of one of the noblest young counties of our glorious commonwealth.

La Crosse River Valley is one of the most beautiful and fertile in the State, and few are making equally rapid

progress in the development of their agricultural resources.

In concluding this necessarily brief and general notice of our visit to Salem, we should not omit to thank the several officers of the Society, Messrs. Seymour & Lottridge of the *Republican*, and their ladies, and Mr. McFan and family, *charges d'affaires* at the depot, for those friendly courtesies and that cordial hospitality which contributed so much to our comfort while at Salem and to a pleasant remembrance of the occasion.

EDITORIAL MISCELLANY.

The Editor again in his Sanctum—Doubtings and Reassurances of Identity—Congratulations—Plans for the Future, &c., &c.—During the past five months, since the snowy 6th of April, when we crossed the Wisconsin line for a tour in foreign lands, we have passed through so many strange scenes, witnessed so many new spectacles, formed the acquaintance of men of so many widely separated and far distant lands, been ground through the mill of so many and diverse customs of life, and withal jabbered in so many uncouth, semibarbarous (!) foreign tongues that we had almost come to doubt our identity.

True, when we at last touched *terra firma* in the beautiful harbor of New York, and mingled with the thronging multitude of rushing men and of frail (yet beautiful) American women, on Broadway; and, especially, when we encountered Barnum and the paraphernalia of his gigantic humbuggery, it did look as though we might, after all, be the veritable "Yankee man" we used to be. But, after making our way through the war-scarred country along the line of the Baltimore and Ohio R. R., and afterwards on foot and alone through the woods, and over the mountains which lie between Grafton and Beverly, Virginia, at the peril of life from the attacks of men who recently were brother citizens of a glorious and happy Republic; after a few days apprenticeship in the loyal army of the Old Dominion, against a gathering horde of dare-devil "bushwhackers;" and after sundry other new and strange experiences of like character, it is not remarkable that we again began to doubt; nor, that even yet, after two weeks in the old familiar office where, in times past, we have encountered and dospatched such loads of secretarial work—where, too, a thousand times we have grasped the ponderous pen that ornaments our table editorial and done our best to prove the right and uproot the wrong—we say, it is not strange that, even yet, as we ruminate upon the past, the question should occasionally come up, *are we really we?*

Still, the world is beginning to look natural again; we feel less inclined to think in French and Dutch than during the summer; and, best evidence of all, the *Legislature* is here still, just where we left it in the early spring, squandering the people's money, throwing paper balls at empty heads, and pitching into everything that tends to the prosperity and honor of the State. Hold! we are self-convinced; this *is* Wisconsin, and we *are we!*

CONGRATULATIONS.

Well, it's a very pleasant thing for one to feel that he's himself again—pleasant under almost any circumstances—but that pleasure is considerably heightened, when, after wanderings in foreign lands, one finds himself at home again—in the dear land of his birth, of his labors and future hopes—in the midst of those whom he has loved in other years—under the benign shadow and ennobling influence of free institutions such as are found nowhere else on the earth but there. Truly may the American, who has traveled in other lands—though even the most enlightened and liberal of *all* others—say, in the language of the good old song, "There's no place like home." Torn by internal dissensions and almost riven asunder, America is still dear and ever dear to the heart of the true patriot; and all the more dear because of those very trials which threaten her institutions, nay her very existence as a nation.

NEW EXPERIENCES OF PATRIOTISM.

For the first time since the immortal Declaration of Independence, the traveler in Europe has been made to feel that he was not specially honored for the place of his nativity. The "wish being father to the thought," it is the assumed position of the aristocrats of the Old World that this wonderful "experiment" of the American Republic is a stupendous and wretched failure—the light of its sudden and transcendent glory going out in darkness and blood. Consequently the American abroad is now, to some extent, the butt of ridicule—sometimes of meanest taunt and contemptuous scorn. But to our mind these circumstances, so far from making us ashamed of our country, rather tended to exalt and endear it. They show to what a recognized height we have climbed as a young nation, and are a stronger proof than any other of the envy and jealousy of the other powers, and, more than all, of the sure fatality of our example as a republic—if the government maintains its integrity, as it surely will—in its influence upon the corrupt aristocracies and decaying monarchies of the Old World. Resting in this conviction, we held our head higher and spoke more proudly of the newly revealed power and future glory of the American Republic, flinging back for taunt and abuse our own emphasized conviction of the felt rottenness and inevitable comparative decline of European powers.

REASONS AND PLANS.

Previous to starting for Europe, we gave our readers to understand that we were not setting out on a tour of mere pleasure. Had that been our object we should not have selected these trying times, when every man who is a man feels like sacrificing everything he has and is upon the altar of his country. Pleasure was not our object.

Consecrated as we had been to the industrial progress of our commonwealth and nation, it appeared to us that the interests of our cause might be promoted by a faithful and judicious inspection of the industry of other en-

lightened nations. The products of that industry were gathered together from all quarters of the globe at the world's great metropolis, and the labor of a lifetime could thus be accomplished in months; this, and this only, was the reason of our going at that time. That we labored zealously and unremittingly may be judged in view of the facts, that we spent two solid months at the Exhibition, going immediately after six in the morning, remaining until eight in the evening, and not unfrequently forgetting to dine; that we traveled, altogether, several thousand miles in France, Switzerland, Germany, Prussia, Belgium, England, Scotland, and Ireland, carefully—though, of course, hurriedly—studying their agriculture, mining, and manufactures, and actually *visiting*—not merely passing through—no fewer than sixty-two of their most important cities and towns; and that, on our return to America, we made a detour into Virginia, spending some two weeks among the guerrillas, and returning to Wisconsin, Sept. 4th, just two days less than five months from the date of our departure!

But all that we have seen and learned in those interesting countries, and at the glorious Exhibition, will have done but little good, comparatively, unless we now take up the pen and become a narrator and commentator thereon. Accordingly, we have commenced in this number, and shall continue—so long as we have anything calculated to interest and profit our readers—first, a series of articles on the nature and quality of the exhibitions made by the different nations; and, secondly, a concurrent series of Notes of Observations on the foreign lands in which we traveled; making both as terse, practical, and interesting as time and ability will permit.

Nine Cheers! for those County Agricultural Societies in Wisconsin which, in the face of all the extraordinary difficulties of the present year, have held successful Fairs, and so contributed to the progress of those great arts upon which the present salvation and future greatness of our country depend.

In times like these, there is no element like *pluck!*

Worse and Worse!—At the close of every session of the Wisconsin Legislature, a virtuous and indignant people have said, "Well: it's to be hoped that we have at last touched bottom! Surely there can never be another so stupid and worse than useless Legislature as this last one." But each succeeding session has convinced them that all such hopes are vain.

The recent extra session, which has cost the State not less than twelve or fifteen thousand dollars, came very near being as barren of good results as was ever a council of Sioux squaws.

How long the people will continue to send men to the Legislature who are mere wriggling, "one-horse" politicians, with no appreciation of what either the present or the future of the State demands, the Lord only knows; we have no data on which to base even a Yankee guess.

It would be unjust to deny—and we have no disposition to deny it—that there are many gentlemen in both houses who have an idea of what is meant by statesmanship, and who are ever ready and anxious to do everything in their power to advance the public interests; but they are unfortunately too often overpowered by the votes of the opposite class, and at the close of successive sessions, are as heartily ashamed of what has been done, or not done, as we or anybody else.

There is certainly good material enough in the State to creditably fill the 132 seats in the two houses of Legislation; will not the people awake to the importance of selecting their *best* men and of keeping them in their places so long as they continue to be faithful and ably discharge their responsible duties?

Rotation is the curse of our western politics, and we may never rationally hope for judicious legislation so long as we keep our halls perpetually filled with *new men* to be bamboozled and fatally controlled by a few designing, conscienceless tricksters who, by dint of sharp practice and bad whiskey, succeed in keeping their places from year to year.

Farmers, you have always had the credit, with politicians, of being *honest*, show them this fall, that you have likewise *common sense* and a determination to keep them at home and to send up to the Legislature for 1863 wise and true representatives.

Fruit in Wisconsin.—We are informed by those who have means of knowing, that the fruit crop of the present year is considerably less than that of the two years previous. Still, there is, we believe, no good reason for the least discouragement.

Will not some of our friends in different portions of the country post us up a little as to their success. We would particularly like to know how the pear orchards are doing, and whether we should be less confident than we have been of ultimate success in this interesting branch of practical pomology.

Come friends, Dr. Weeks, Col. Crocker, Messrs. Robbins & Chandler, and others, give us your experience and prospects up to date. The public want the information.

Attention is called to the Act of Congress published in the Educational Department for the endowment of Agricultural Schools. It is based upon the idea that knowledge is no less essential to the farmer than to the lawyer, physician, or engineer; and if its great objects are faithfully carried out, it cannot fail to accomplish a mighty work in the elevation of the masses and the ennobling of beneficent labor.

Our Notes of European Travel will be resumed in the November No., and thenceforward regularly continued; each article bearing the date and place of the observations therein recorded. It was our intention to publish the first of the series in this number, but we find, at the last, our columns too crowded with matter which seems to be of more immediate importance.

Write for the Farmer. Write! Write!!—Farmers, Gardeners, Mechanics, Housewives and every body else, why don't you write for the good old FARMER? Just look at this present number—about three or four contributions in over 40 pages! Have you no desire to promote the interests to which your own lives and the lives of seven-eights of your neighbors are devoted? Have you no disposition to contribute somewhat to the industrial growth of the State? and is there no particle of manly pride in you prompting you to help the hard-working Editor of the only industrial journal in the State to maintain its existence during these most trying times and add to its prosperity and usefulness?

Verily we begin to get *mad!* Since the war fairly commenced we have sustained the FARMER purely from motives of State and personal pride, and because we believed it to be an important instrument of good to the industry of the State. It has not paid us a dollar of clear profit, and when thoroughly convinced that our self-sacrificing labors are in no sense appreciated, we propose to quit working for nothing and to devote our energies to some field of labor that will, at least, yield us the fruit of satisfaction.

Friends! shall the FARMER be sustained? Say either yea, or nay, that we may know what to depend on; but if *yea*, then grasp the old grey goose quill or rusty iron pen and give us, for once, some palpable evidence that you are alive and have some interest in the good work to which we are devoted. *Anything under heaven rather than silence and total stagnation!*

Our columns are open to the fair and honorable discussion of any subject that looks to the material and social progress of the State. Are there but a half-dozen persons among all the host of our readers who have *something to say concerning something?*

A new Way to Economize.—The fool who killed the goose that lay the golden egg is probably dead, but there is good evidence that some of his descendants still live. Witness the recent act of the late Legislature in cutting off all the supplies of the State Agricultural Society—an institution whose objects are the advancement of those very interests whence the whole revenue of the State is derived, and whose efforts for the promotion of those objects have been unremitting, and hitherto successful to an eminent degree.

The argument of "hard times, straitened finances, and an uncertain war," though specious as against the standing appropriation to the Society—and, perhaps, valid, had it been urged for a *reasonable reduction* of the amount appropriated in times of peace, and of the holding of Fairs—is in itself the strongest argument that could possibly be urged in favor of continuing so much of the annual appropriation as would enable the Society to go forward in its equally important work of "the collection and diffusion of information tending to develop the natural and agricultural resources of Wisconsin," as required by the statute of incorporation.

There are, we know, a few men in Wisconsin, who, having narrow minds and but little intelligence, can never be made to see that the least good or desirable credit is derivable to the State from the distribution of industrial books, the circulation of periodicals, the delivery of practical and scientific lectures, or the exchange of useful publications with the industrial organizations of other States; but we were a little surprized (and not much either!) that so many of that unfortunate class of wooden heads should have been entrusted with the responsible duties of guiding the policy of the State. To *reason* with *them* is utterly futile. We, therefore, propose no such waste of time, and only ask the intelligent farmers of Wisconsin to entrust for the future the great interests of the State to men who are capable of appreciating the importance of doing everything that can be done to foster and encourage the agricultural and mechanic arts, upon the successful operations of which not only the credit and prosperity of the State depend, but upon which must turn even the issue of the present war and the very existence of the Government.

The Oscillations of War.—When, early last spring, we pushed off from the American shore and gave ourself up to the tender mercies of old Neptune, we at the same time committed our country to the Ruler of Nations, in the strong hope that our return would find the power of the Rebellion broken and order restored, in at least, several of the States.

And was there not good ground for such a hope? In the West, Forts Henry and Donnelson had been captured; Columbus had been abandoned by the Rebels and Island No. 10 was in process of preparation for surrender; the battle of Pea Ridge had been fought, and Missouri pretty well cleared of the enemy; Tennessee and Alabama had been penetrated by the Western Army; colonies had been planted in both South and North Carolina; Banks had captured Winchester and Martinsburgh; and McClellan had moved upon and captured the Quaker guns at Manassas.

But after a long and bloody campaign the war is found on our return, not nearly finished, but rather just begun. Progression had become *retrogression*. The enemy had invaded the Union States, and to-day, are panting like fiends at the very gates of the Capital!

But there is another phase of this question: The people of the loyal States are at last *beginning to be in earnest!* Prejudice is yielding to Patriotism, and public sentiment is coming up to the point of allowing the Rebellion to be crushed by any means in the power of the Government. So much for a thousand millions of money and a quarter of a million of lives!—lives two-thirds of them thrown away—wickedly sacrificed by a stubborn public to the Moloch of the South!

But the eyes of the nation are now opened and the pendulum of success may be expected to swing southward once more. Let us thank God and take courage.

The Publishers to their Friends.—Never, since the foundation of the Government, has there been a period so trying to the industrial publications of the country as this present. The war, as is natural, pretty much engrosses the attention of the whole people and there is comparatively little disposition to read anything but the exciting news of the day. It *ought not* to be so, but it certainly is, and there is great danger that a flagging of industry will, after a little time, begin to be sorely felt in the diminished revenue of the country.

Is it not the duty, therefore, of every reflecting patriot to use his best influence to correct this dissipation of the energies of the people not actively engaged in the war, and to turn them into the wealth-producing, army-supporting channels of a thorough, practical industry? And if Agricultural Journals are really an important instrumentality for the furtherance of that work, then is it not *the duty of all farmers particularly* to contribute of their means and active influence towards the support of such journals? Nothing can be clearer, and we are preparing our programme for the next year's campaign in the unfaltering conviction that no friend of the FARMER will discontinue or relax his efforts on its behalf, during this trying period of its existence.

Several like publications in other States have suspended for lack of support, but we are not willing to believe that the noble young State of Wisconsin, with 70 or 80 thousand farmers, will allow even the temporary suspension of its only agricultural paper.

REQUISITES.

But in order to sustain the FARMER, three things are requisite:

1. *All who are indebted to the paper must* PAY UP.

2. *All who can add anything to the interest of the paper by contributions of thought must* WRITE.

3. *Every friend of the* FARMER *must not only take and pay for it himself, but likewise* INDUCE OTHERS TO SUBSCRIBE.

VALUABLE PRIZES.

We are making arrangements to offer a number of valuable prizes—including SEEDS, BOOKS, IMPLEMENTS, SEWING MACHINES, &c.—to such as especially labor in behalf of the FARMER, and the Editor hopes to make the volume for 1863 the most interesting and valuable of all that have ever been published.

SEND IN THE NAMES AND DOLLARS!

NOTICES OF NEW ADVERTISEMENTS.

The attention of parties interested is called to the new advertisement of Messrs. Robbins & Chandler. Their nursery stock is probably equal to any in the Northwest and we are glad to learn that they are securing a very large patronage.

Mr. Chandler was for several years employed as foreman in the extensive nurseries of that prince of pomologists, Col. Marshall P. Wilder, of Boston, and after an experience of several years in this State, can hardly fail to give satisfaction in the practical department of the business; while Mr. Robbins is enthusiastic in his work of promoting the interests of fruit-growing in Wisconsin, and will spare neither pains nor money to make the Rock Terrace Nursery one of the most reliable and successful in the State.

"*A New thing in Agriculture.*"—The Rotary Spader, invented by the Hon. Cicero Comstock, of Milwaukee, and of which commendatory notice has heretofore been made in the FARMER, has finally been perfected, and is advertised in this number by Messrs. Comstock & Gliddon, proprietors. We shall take pains to see this ingenious machine in actual operation, and again bring it before the public.

STATEMENT

OF THE

Madison Mutual Insurance Company,

FOR THE YEAR ENDING

JANUARY 1st, 1862.

Made to the Governor of the State of Wisconsin, as required by the provisions of chapter 303, of the General Laws of 1858.

Total amount of accumulations,..... $216,865 76

ASSETS:

Premium notes of policy holders	$180,124 63	
Cash on hand, and due from policy holders for cash premiums,.....	35,408 66	
Am't secured by mortgage and judgment,.....	382 47	
Office furniture and fixtures,...	1,000 00	$216,865 76
Whole number of policies issued,.....		14,357
Am't of outstanding risks thereon,.....		$10,320,789 00
Reported losses awaiting further proof,.....		3,709 80
Losses recently reported,.....		3,433 89
Whole number of policies issued in 1861...		5,778
Amount of outstanding risks thereon,.....		$5,315,173 00
Amount of premium notes thereon,.....		93,944 06
Amount of cash premiums thereon,.....		48,377 36
Total amount of losses reported during the year,.....		15,801 13
Total am't of losses paid during the year,		6,881 16
Amount settled by drafts and awaiting the call of the insured,.....		1,568 85
Amount of commissions paid to Agents,....		7,460 84
Am't paid for Advertising,.....	$1,625 20	
Amount paid for printing,.....	811 00	
Amount paid for postage,.....	366 22	
Amount paid for office rent,....	200 00	3,002 42
Expenses paid, including all compensation of officers and directors—stationery, extra clerk hire, fuel, lights, and all other incidental expenses,.....		6,069 56

STATE OF WISCONSIN, } ss.
DANE COUNTY,

We, the undersigned, being the President and a majority of the Directors of the "Madison Mutual Insurance Company," do solemnly swear, and each for himself saith, that the foregoing is a true and correct statement of the affairs of said company in the particulars therein named, as appears by the books of the company, according to the best of our knowledge and belief.

D. J. POWERS, President.
JOHN W. BOYD,
SAMUEL D. HASTINGS,
B. F. HOPKINS,
TIMOTHY BROWN,
ALBERT WOOD,
G. F. HASTINGS,
H. H. GILES,
SAM'L R. McCLELLAN,
G. R. MONTAGUE,
ORRIN GUERNSEY,
LUTHER BASFORD,
DAVID ATWOOD,
D. WORTHINGTON.

Subscribed and sworn before me this sixth day of January, A. D. 1862. V. W. ROTH, Notary Public, Dane County.

THE WISCONSIN FARMER.

J. W. HOYT, : : : : : : : : : : : EDITOR.

VOL. XIV. MADISON, NOVEMBER 1, 1862. No. 11.

The Great International Exhibition.

No. II.

U. S. DEPARTMENT CONCLUDED.

Better and better! As the Exhibition progresses, the eyes of John Bull and 'the rest of mankind' are being gradually opened to the peculiar importance of American Industry as a powerful agency for the advancement of the world's civilization. The *London Times* is thawing out and now does'nt hesitate to say that, "after the models and gigantic engines in the western annexe, *the very ingenious, small hand labor-saving machines in the American Court are the most looked after. * * * This is worthy of a more extended notice than it has yet received from the mass of visitors.*"

THE FAMOUS AMERICAN LOOM.

Passing over a large number of machines, such as cork-cutters, rope-makers, washing machines, &c., which the *Times* very cleverly names as "*almost approaching the inspirations of genius in the simple means by which their great results are effected*"(!) we come next to speak of the great Loom for weaving tufted or pile fabrics of every description. In our estimation this is one of the most valuable of all the multitude of the wonderful inventions on exhibition. The London *Mechanics' Magazine*, in its notice of it says:—"Among the many useful inventions from the United States, perhaps the most remarkable is the power loom for weaving tufted fabrics. This is the invention of Mr. A. Smith, of West Farms, New York, and intended for weaving the Axminster carpets or any other tufted or pile fabric which requires cutting and is produced from a pattern. Unlike either the Jacquard or the old draw loom, the pattern designed is formed by the arrangement of the spools which are suspended over the machine to the number of 270. These produce a pattern the whole width of the material and one and a half yards long, and at every throw of the shuttle, a piece of mechanism rises up like so many fingers, catches hold of the threads and weaves them in. A knife then passes swiftly over it and cuts off the tufts to any length required. Any design can be woven in it in parts, which when united will have the appearance of being woven in one piece, and the loom will produce twenty-five yards in one day. This loom has received great attention from scientific Englishmen, and Earl Granville, who is well acquainted with weaving operations, has declared publicly that it is destined to achieve great results."

This is certainly highly complimentary, but not any more so than the character of the remarkable invention warranted. Earl Granville really said more than is above reported—that it was "perhaps the most useful invention produced within the past several years—itself an honor to America if she had had nothing else at the Great Exhibition!"

The facility with which Mr. Smith's Loom seizes the right threads, works them into their place and then shears them off so as to leave an even tufted surface with beautifully executed patterns was the marvel of thousands whom we saw sundry times crowding about "this new Yankee wonder."

INTERESTING MODELS.

In class 12—Naval Architecture—the model Life-boat exhibited by Dr. T. Scholl, of Port Washington, Wis., attracted much attention.—

The model itself was very bungling and did not so well illustrate the idea of the inventor as it should have done. But the principle appeared to be a good one and received the approbation of many competent inspectors. Briefly described, it is a boat within a boat—the inner one having freedom of lateral motion within the outer, so that however violent the storm, the boat's burden of passengers shall remain "right side up, with care." We learn that it has been patented in England, and has received the favorable attention of the Navy Department.

Models of "trucks" for locomotives, of self-centering railway turn-tables, and of a street tramway carriage were also there—the last named being exhibited by that clownish, immensely over-rated, (in this country,) self-appointed representative of American institutions, Geo. Francis Train. The horse railway thus far has not succeeded in England; nor will it London, until it has first succeeded everywhere else. This is partly due to the obstinate unwillingness of John Bull to borrow of Brother Jonathan, and partly to the injudiciousness of Mr. Train, the originator of the movement there. It is, nevertheless, a great improvement on the universal omnibus, and is bound to make its way in course of time—that is unless something still better and a yet greater invention should be contrived.

MANUFACTURES.

Colt's patent fire arms, including samples of guns, pistols, powder flasks, shot pouches, &c., made a good display and originated not a few warlike discussions between the Johns and the Jonathans as to which nation was entitled to the palm in the department of war.

Samples of lockets, hermetically sealed jars, invalid reclining chairs, extension sofa bedsteads were there and creditable to the exhibitors; also leather and imitations of leather.

Textile fabrics shown by but one firm—the Manchester Print Works, Manchester, N. H. This large and enterprising establishment was ably represented by Hon. Frederick Smyth of Manchester, and won several prizes for superior cotton prints, de laines, woolen hose, &c.

THE BEST PIANO IN THE EXHIBITION

Was shown by Messrs. Steinway & Sons, of New York City. The medal was awarded for "powerful, clear and brilliant tone and excellence of workmanship," and several members of the committee—Germans and Frenchmen, well skilled in music, supposed to be the best judges of musical instruments in the world—declared it to be "not only the best piano on exhibition, but the best they had ever seen!"

Higher praise than this could not have been accorded to the manufacturers, and Messrs. Steinway & Sons may well be proud of their success.

WORKS OF ART.

There is a natural order in the development of a nation of which no degree of intellectuality of its people can give it independence. This law of progress is such that Art, which is a product of the highest culture—a kind of blossoming, as of a century plant, after long years of preparatory life—developes late, if not latest. It should not, therefore, be expected that a young nation, charged with the labor of clearing up forests, opening mines, building great thoroughfares of travel, and organizing those grand fundamental institutions so essential to the life and robust health of the people and to the conservation of the Government itself, should at the same time flourish in those finer arts which belong to the later development, and require time, wealth, and the highest culture.

With this view, it is not surprising that America should have beaten the world in the construction of reapers, sewing machines and other inventions of *utilitarian* character—this had come to be expected as a matter of course; first because of the remarkable inventive genius of her people, and secondly because of the strong stimulus afforded by the vastness of the country and the immensity of its resources. But who expected her to bear off the palm in the departments of sculpture and painting?

PAINTINGS, PHOTOGRAPHS AND ENGRAVINGS

Were not shown by the United States in large numbers, but the quality is unsurpassed, if indeed equaled, by those of any other nation.

Cole's "Voyage of Life," and Schusele's "Men of Progress," handsomely engraved, were exhibited by Messrs. J. Smiley and J. Sartain.

The specimens of bank note engraving by the American Bank Note Co., New York, were fine; furnishing convincing proof that in this branch of the engraver's art, at least, we have but little to borrow.

The only exhibitor of *photographs* is Mr. Brady of New York, and he, for some reason, failed to get his specimens to London until the exhibition period had half passed and the Jurors had completed their work. But finer works were probably never executed. Certainly there was nothing in the Great Exhibition that excelled the beautiful portraits of the Prince of Wales, Mr. Seward, President Lincoln and others. The first one named, for the fine effect produced by light and shade and the perfect blending of these, surpassed anything we remember to have ever seen. The only works that rivalled it were certain magnificent specimens in the Austrian court; which, up to the arrival of Brady's collection were clearly entitled to the palm.

Under the head of *paintings*, there were 19 exhibitons, of which two were by G. Harvey—portraits of Daniel Webster and of the Mother of Washington; one,—"The Night March"—by J. W. Glass; one—portrait of Mrs. Cropsey—by D. Huntington; "Head Waters of the Susquehannah," by L. R. Mignot; "A Herd of Bisons crossing the river bottom on the Upper Mississippi," and a "Prairie Dog Village on the Upper Missouri," by W. J. Hays; "Bath Scene," "The Flower of the Seraglio," Portraits of John Thomas, Esq., and of Mrs. John Thomas, by M. K. Kellogg; "Italian Peasants," "Venus," Portraits of W. Page, Esq., and of Mrs. Page, by W. Page; "A Cane Brake," "Autumn on the Hudson River," "Scene in the Catskill Mountains," "Spring," and "Sea Coast, Isle of Wight," by J. F. Cropsey.

Most, perhaps we should say all, of the works above named were creditable to American Art. But those of Mr. Cropsey were particularly so—there being nothing of that class of work in the Exhibition superior to his several beautiful landscapes. "Autumn on the Hudson," which may be styled his master piece, is a glorious picture, doing admirable justice to the splendid scenery of that noble river. The gorgeousness of our American autumn foliage is so well represented in the picture as to greatly delight and astonish the European spectator.

Mr. Cropsey has been a resident of London some seven or eight years, and has succeeded not only in securing a very fine and lucrative patronage, but, likewise that which is very much more gratifying to his patriotic pride—a high reputation for American Landscape Painting.

We had hoped to see Church at the Exhibition, with his noble "Heart of the Andes" and his matchless "Niagara," but in this were disappointed.

SCULPTURE.

Sculpture has so far degenerated in modern times that we hardly expect any more to see those glorious, faultless realizations which gave immortality to the old masters. This decline, although deplorable, was a necessary consequence of the almost universal corruption of sentiment of the 'Dark Ages' coupled with the peculiar nature of the Art itself, which is subject to so much narrower restrictions than the more plastic arts of Poetry and Painting.—What the Artist would call 'earnestness'—a term expressive of grandeur, delicacy, vitality—is scarcely found in the sculptures of the present, and the remedy is difficult. The artist, though blessed with the gift of inspiration, can get no recognition from the public, whose false taste blinds it to the merit of works of the highest art; and public taste is likely, in turn, to continue in self-ruining indulgence, for want of models of excellence, suppressing the higher aspirations and original leadings of the sculptor. But the Genius of Sculpture still lives and ever strives to bring back her disciples to a renewal of the earlier, severer style.

There are men of genius in the Old World who religiously hold on to the true Ideal, but

none of them are doing more for the restoration of this almost noblest of the Fine Arts to its ancient glory than some of our own American artists—Powers, Story, Palmer and Hosmer being chief among the number.

The second named—W. Story—though still but a youth, has fairly won the distinguished place we have assigned him—next in rank to the world-renowned master, Hiram Powers. He is now at Rome, studying the Great Masters and the works exhibited by him at London were executed there. They were accordingly shown in the Roman court. It is proper, nevertheless, that we claim them as *American*, and give to them a place in this notice of the United States Department.

"Syblla Libica" is a beautiful marble statue and attracted considerable attention among critics. But Story's great work—one which will surely give him a high reputation in the world of art—is "Cleopatra." The material of this faultless statue is pure white marble, and the whole figure is a most admirable realization of the historic character of the wonderfully beautiful and fascinating woman which it is intended to represent, She is presented in a sitting posture, the elbow of the right arm resting on the back of her chair, and the hand supporting the head. The drapery very chastely clothes the entire person—the perfect neck, beautifully rounded arms and one sandled foot alone being exposed. The expression is thoughtful, and not a little sad; suggesting that period in her life when the cares of her empire weighed upon her most heavily.

Not being ourself an artist nor even a professed critic, and withal being an American, it may be necessary that our judgment be received with some allowance; but it is certainly true that we were affected by no statue in the Exhibition as by this one—and that too before we had learned that it was the work of an American genius. Venus—a most faultless and beautiful statue in tinted marble, by the distinguished Gibson, was its only rival, and it was far inferior in point of chasteness and classic *severity*.

We have thus, at length, completed our notice of the American department of the Great Exhibition. It has been our desire to do justice to all parties interested—our intention to claim for the American exhibition simply the credit it justly deserves. It was much less meritorious in most branches than it ought to have been, but under all the embarassing circumstances heretofore mentioned, and in view of the very large proportion of prizes awarded —98 articles having drawn 87 medals and diplomas, or four times as many as the average of other nations—no citizen of the United States (unless it be those persons who did their best to prevent the doing of anything by this country) need be ashamed of the result. As an ingenious, utilitarian people, with a capacity for worthy achievments in the department of the highest Art, we have shown that the world has no superiors. Glory enough until the next time trying.

A Few Words about Cotton.

At the close of the Revolution, cotton was not raised in the United States as a source of profit. In 1790, less than one hundred bales were exported. At that time, the wonderful inventions destined to give importance to cotton culture, were in their infancy. In Europe the "Jenny" of Arkwright, and the steam engine of Watt were being developed. Arkwright died in 1792, and Watt in 1819. The gin of Whitney was introduced in 1793; and yet on a trial for the infringement of Whitney's patent in Georgia, in 1807, the cotton gin had become of so much importance, that Judge Johnson remarked to the jury that, with regard to the utility of the discovery, the court would deem it a waste of time to dwell long on the topic. From childhood to age it has presented to us a lucrative employment. Individuals who were depressed with poverty and sunk in idleness, have suddenly risen to wealth and respectability. Our debts have been paid off, our capital has increased, and our lands trebled in value. We cannot express the weight of obligation the country owes to this invention." Cotton had not then made claim to royalty. Were it not for the inventions referred to, the rule or ruin element of the South would have had to find some other pretext than slavery for the present rebellion. —*The World.*

☞ It is a good thing to keep farming tools in order, for it often saves great vexation and loss of time. Farmers, do you hear?

November and its Work.

"The dead leaves strew the forest walk,
And withered are the pale wild flowers;
The frost hangs blackening on the stock,
The dew-drops fall in frozen showers;
Gone are the Spring's green sporting bowers,
Gone Summer's rich and mantling vines,
And Autumn, with her yellow hours,
On hill and plain no longer shines."

Yes, but what of it? Shall we therefore put on long faces and forget that every month, even November, has its bright side—its duties and its peculiar joys? To the hearts of some there are golden memories linked forever with this chill and stormy month, so that it is never more the dreary month the poet's lines would make it. To *us*,

The leaves the light wind bears
To Earth's cold bosom with a sigh,
Are types of immortality,
As well as fading years.

The healthy soul may ever rise superior to the circumstances of mere material life. Times, and places, and seasons are what we make them—as drear and cold as frosty night, or bright and warm as golden day.

THE DUTY OF PROVIDENCE.

November is especially a month for the exercise of provident care and kindly charities—care of crops and of the mute dependents of the field and fold—charities for all whose needs are larger grown than ours. Cold winter is coming and the voice of the destitute is even now heard in low murmur, coming up from many homes made drear and desolate by cruel war. Let us not permit our hearts to callous under the repeated calls that are and must be made, but rather tenderer grow, as the wants of the needy increase.

The families of our brave volunteers, they must be allowed to want for none of the necessary comforts they have been accustomed to enjoy. The war will doubtless necessitate a closer economy on the part of almost all—a giving up the luxuries of life by many; but there is nevertheless enough in this land to ensure the comfort of all, if fairly distributed.

We enjoin, therefore, upon all the duty of providence. See, not only that nothing is wasted, but that everything needed be applied, and nothing misapplied.

SPECIAL CARE OF ANIMALS.

The first spell of really cold and stormy weather is often severer in its effects upon animals—as well as men—than the severe cold of mid-winter. Think of this in making provision for the comfort of your stock. There is economy as well as humanity at stake in this provision for your horses, cattle, sheep, swine and poultry.

The *Indian Summer* which poets and painters have attempted to describe, but which neither poem nor picture has ever yet represented, is still due us, with all its dreamy beauty of earth and air and sky. Let its days be employed in the fulfillment of duties not yet performed, so that winter bring with it no regrets.

For practical suggestions see our remarks on October, the work on which month will necessarily be prolonged into this. Read and heed.

Yield of Grain in Western Europe.

When we left Europe, August 1st, it was the general opinion of the Agricultural Press that the crops must generally fall quite short of the average. Throughout the latter part of June and the first part of July the rains had been so frequent and copious that great fears were entertained for the crops of grain, not only in England, but likewise on the continent.

But notwithstanding the unfavorableness of the weather—causing so much of a falling off from the average as to have patented the use of the term partial *failure* in connection therewith—the results, particularly for wheat, are so far superior to our own, as to put our miserable sham agriculture to shame.

The full returns have not yet been published, but the returns from 38 counties in England are as follows:

Average of	Wheat,	29	bushels.
"	Barley,	37¾	"
"	Oats,	46½	"
"	Beans,	32½	"
"	Peas,	30	"

The wheat crop in this State, we are told, will scarcely exceed ten bushels per acre.—Partly the fault of the weather, partly and largely *our own*.

The Heroes of Industry.

Let others write of those who fought
On many a bloody field—
Of those whose daring deeds were wrought
With sword, and spear, and shield;
But I will write of heroes bold,
The bravest of the brave,
Who fought for neither fame nor gold,
Who fill an unmarked grave.

Heroes who conquered many a field
Of hard and sterile soil,
Who made the sturdy forest yield
To unremitting toil;
Heroes who did not idly stand,
But dealt such fearful blows
That acres broad of worthless land
Now blossom like the rose.

The heroes of the plow and loom,
The anvil and the forge;
The divers down among the gloom
Of yonder rocky gorge;
Heroes who built yon lofty tower,
And forged its heavy bell,
Which faithfully proclaims the hour,
And marks its flight so well.

Heroes who brought from every clime
Rich argosies of wealth;
Heroes of thoughts and deeds sublime,
Who spurned what came by stealth;
Who won a guerdon fair and bright,
And left no bloody stain—
No hearth profaned, no deadly blight—
Upon God's wide domain.

Burning Straw Again!—Stop it!

We were just beginning to congratulate the agriculture of Wisconsin upon the supposed fact that the abominably stupid practice of burning straw was fast becoming absolete, when we discovered, by report and observation, that the work of destruction was being revived.

The excuse is that fire is an exterminator of the chinch bug! So it is, if you can only get the bugs into it. But we regard it as by no means certain that any considerable quantity of them are consumed by the burning of straw stacks after thrashing. Besides, if it were true that they were thus consumed, it ought to be enquired whether there is not some way to dispose of the straw so that the farm shall not be empoverished, while at the same time the *bug* is just as effectually disposed of.

Our plan would be to make *fodder* and *manure* of both the bugs and the straw, if the two are really found together as the burning theory presupposes.

You haven't stock enough to dispose of all your straw in these two ways? So much the worse. You ought to have.

Some Things that I have Learned.

I have learned that a farmer who leaves his legitimate business and embarks in merchandising or any outside speculation in no wise connected with his farming, is in danger of losing his farm. Nine-tenths of those who have lost their farms in the last five years in this country, may attribute their losses to the mistaken notion that they could make money easier and faster in some other business.

I have learned that a man who is in the habit of trading at one store and at another store, and at half a dozen stores during the season on credit, and thinks in the fall he owes about fifty dollars, will be more likely to find when he settles with all, that he owes the fifty with the figure 1 at the left hand of it.

I have learned that the only safe way for a poor man is to pay for everything he consumes in the family at the time of purchase; he will then be more capable of judging which will do him the most good, the merchandise or the money laid out some other way.

I have learned that there are many things we think we need, which by adopting the above rule, we are forced to do without, and we get along just as well and are just as happy.

I have learned that it will do sometimes to buy seeds and farming utensils at reasonable prices, on credit, when the probability is that the use of them will be worth several times the interest.

I have learned that nine-tenths of the agricultural machines offered for sale are of no use whatever, unless it be to line the pockets of the sellers, and some even fail to do that.

I have learned that whoever buys a machine or any other thing on credit, and pays for it when he agrees to, can buy again on credit when he has occasion.

I have learned that men who pursue agriculture merely for the purpose of supporting themselves and families, and not from any love of the business, seldom do more than accomplish the primary object.

I have learned that what people can do well they generally like to do, and what they can not or do not do well, is irksome.

I have learned that the farmer who takes no agricultural paper is almost sure to be behind his more enterprising neighbors in the results of his labor, and to lose at least twenty times as much as the paper would cost.

AGRICULTURE.—According to the census of 1860, agriculture is the great interest of the nation. The total capital of the United States was about $6,000,000,000. Of this sum, 5,000,000,000, or five-sixths of the whole amount, was invested in agriculture. The late Professor Johnston, of Scotland, estimated that nine-tenths of all the fixed capital of the world is embarked in agriculture.

The Department of Agriculture.—First Commissioner.

Hitherto—owing to our absence from the country at the time of its passage—no mention has been made in the FARMER, of the act of the late Congress, establishing a Department of Agriculture in the National Government.

In common with our brethren of the Agricultural Press, we have been, for years a zealous advocate of the policy which Mr. Lincoln has had the wisdom to inaugurate, and it was, therefore, with great satisfaction that we hailed its adoption by the late Congress.

Agriculture, at last, takes rank among the recognized interests of the nation—perhaps not yet just the rank to which it is really entitled, yet certainly quite above anything that has been accorded to it heretofore, by the Government.

The next question of importance is that of *administration;* for, if the affairs of this new department be not wisely managed, it must fall into discredit and thus retard rather than advance the cause of Industrial Progress.

On this account it is natural that the friends and veteran advocates of the measure should manifest a deep interest in the character of the administration. Whether the criticisms which have so generally been made upon the appointment of Mr. Newton of Philadelphia as Commissioner, have all been well founded is, however, another question. It is our own opinion that some of them, at least, have originated more in the disappointed ambition of other aspirants than in any well grounded conviction of the "total unfitness" of the President's appointee.

The charges seem to be, first, that the Commissioner is not a *practical farmer*, and secondly, that he is terribly wanting in the rudiments of the English language!

The first of these we are very certain is without foundation, and the second we believe to be equally so.

Mr. Newton appeared to us, after some little acquaintance, as a sound, well informed, enterprising farmer, who would devote himself to the work of advancing the interests of agriculture with great zeal and fidelity.

When we first saw him in the autumn of 1861 he was hard at work upon the Agricultural Report—since issued in the name of Mr. Holloway, Commissioner of Patents, in accordance with the usage of the office,—and whatever others may think of the results of that labor, we are ready to accord to the real Compiler and Editor, the merit of having dispatched his work with a judiciousness not heretofore excelled, and with a promptness thus far unequalled.

It should not be forgotten, moreover, that this was the first year of his effort as Chief Clerk of the Agricultural Bureau. The experience of the past will doubtless enable him to do yet better in the selection and preparation of the material for this year's report, and in the administration of the affairs of the office generally.

As to the numerous charges of bad orthography in the making of orders, &c., we shall have nothing to say—more than that, taken together, they prove quite too much, since they attribute to the author so many modes of spelling the same word as to render each and all of the charges quite improbable.

Leaving all these petty allegations, together with the oft repeated re-iterations of unfitness without any attempt at demonstration, there is one thing which should not be lost sight of—the fact Mr. Newton was, to a great extent, instrumental in securing the adoption of the policy of enlarging the sphere and powers of the agricultural branch of the Patent Office. He zealously labored to this end so long ago as when Gen. Taylor was President; himself preparing, as we are informed, that portion of the General's first message which recommended the creation of a Department of Agriculture. He likewise labored with the present Secretary of the Interior on the subject, and doubtless had some influence in securing the hearty recommendation to Congress of a like measure by that able Cabinet officer. This, of itself, other things being equal, is some reason why the President should have preferred to place him in a position to try his skill at moulding the policy of the new Department.

Finally, as said before, we do not assume to *know* that Mr. Newton is absolutely the fittest man in the nation for the office to which he has been appointed, but we most cheerfully accord to His Excellency, our noble President, the probability of having made a judicious selection, and are prepared to wait for developments which shall determine the question of qualifications.

The following is a copy of the act above referred to:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby established at the seat of Government of the United States a Department of Agriculture, the general designs and duties of which shall be to acquire and diffuse among the people of the United States useful information on subjects connected with agriculture in the most general and comprehensive sense of that word, and to procure, propagate, and distribute among the people new and valuable seeds and plants.

Sec. 2. *And be it further enacted,* That there shall be appointed by the President, by and with the consent and advice of the Senate, a "Commissioner of Agriculture," who shall be the chief executive officer of the Department of Agriculture, who shall hold his office by a tenure similar to that of other civil officers appointed by the President, and who shall receive for his compensation a salary of three thousand dollars per annum.

Sec. 3. *And be it further enacted,* That it shall be the duty of the Commissioner of Agriculture to acquire and preserve in his Department all information concerning agriculture which he can obtain by means of books and correspondence, and by practical and scientific experiments, (accurate records of which experiments shall be kept in his office,) by the collection of statistics, and by any other appropriate means within his power; to collect, as he may be able, new and valuable seeds and plants; to test by cultivation the value of such of them as may require such tests; to propagate such as may be worthy of propagation, and to distribute them among agriculturists. He shall annually make a general report to the President and to Congress, in which he may recommend the publication of papers forming parts of or accompanying his reports, which report shall also contain an account of all moneys received and expended by him. He shall also make special reports on particular subjects whenever required to do so by the President or either House of Congress, or when he shall think the subject in his charge requires it. He shall receive and have charge of all the property of the agricultural division of the Patent Office in the Department of the Interior, including the fixtures and property of the propagating garden. He shall direct and superintend the expenditure of all money appropriated by Congress to the Department, and render accounts thereof, and also of all money heretofore appropriated for agriculture, and remaining unexpended. And said Commissioner may send and receive through the mails, free of charge, all communications and other matter peataining to the business of his Department, not exceeding in weight thirty-two ounces.

Sec. 4. *And be it further enacted,* That the Commmissioner of Agriculture shall appoint a chief clerk with a salary of two thousand dollars, who in all cases during the necessary absence of the Commissioner, or when the said principal office shall become vacant, shall perform the duties of the Commissioner, and he shall appoint such other employes as Congress may from time to time provide salaries corresponding to the salaries of similar officers in other departments of the government, and he shall as Congress may from time to time provide, employ other persons, for such time as their services may be needed, including chemists, botanists, entomologists, and other persons skilled in the natural sciences pertaining to agriculture. And the said Commissioner, and every other person to be appointed in the said Department, shall, before he enters upon the duties of his office or appointment, make oath or affirmation truly and faithfully to execute the trust committed to him. And the said Commissioner and the chief clerk shall also, before entering upon their duties, severally give bonds to the Treasurer of the United States, the former in the sum of ten thousand, and the latter in the sum of five thousand dollars, with conditions to render a true and faithful account to him or his suecessor in office, quarter yearly accounts of all moneys which shall be by them received by virtue of said office, with sureties to be approved as sufficient by the Solicitor of the Treasury; which bonds shall be filed in the office of the First Comptroller of the Treasury, to be by him put in suit upon any breach of the conditions thereof.

Approved, May 15, 1862.

CHANGING SEEDS.—The Irish *Agricultural Review* says:—The practice of frequently changing seed is now recognized in many sections as essentially necessary to the production of a first-rate crop. We all know that the practice of procuring seed potatoes from a distance—say 20 or 25 miles—and from different kinds of soil, has a most marked influence on the product. While the *rationale* of this is not quite obvious, the fact is indisputable. The same result follows also in the management of corn, wheat, pumpkins, beans and garden seeds. Even where exchanges are made between farmers in the same neighborhood, and where there is no very marked dif-

ference in the geological or mineral characteristics of the soil in the respective localities, the practice is conducive to improvement. Let those who have never tried the experiment do so; on a small scale at first—if they are at all skeptical, and mark the results, both as regards quantity and quality of crop.

Make Farm Labor Fashionable.

At the base of the prosperity of any people lies this great principle—make farm labor fashionable at home. Educate, instruct, encourage; and offer all the incentives you can offer, to give interest and dignity to labor at home. Enlist the heart and the intellect of the family in the support of a domestic system that will make labor attractive at the homestead. By means of the powerful influences of early home education, endeavor to invest practical labor with an interest that will cheer the heart of each member of the family, and thereby you will give to your household the grace, peace, refinement, and attraction which God designed a home should possess.

The truth is, we must talk more, think more, work more and act more, in reference to questions relating to home.

The training and improvement of the physical, intellectual, social and moral powers and sentiments of the youth of our country, require something more than the old schoolhouse, academy, college and university. The young mind should receive judicious training in the field, in the garden, in the barn, in the workshop, in the parlor, in the kitchen—in a word around the hearth-stone at home.

Whatever intellectual attainments your son may have acquired, he is unfit to go forth into society if he has not had thrown around him the genial and purifying influences of parents, sisters, brothers, and the man-saving influence of the family government. The nation must look for virtue, wisdom and strength, to the education that controls and shapes the home policy of the family circle. There can be no love of country where there is no love of home. Patriotism, true and genuine, the only kind worthy of the name, derives its mighty strength from fountains that gush out around the hearth-stone; and those who forget to cherish the household interests will soon learn to look with indifference upon the interests of their common country.

We must cultivate roots—not tops. We must make the family government, the school; the agricultural fairs, the laboratories, of our future greatness. We must educate our sons to be farmers, artisans, architects, engineers, geologists, botanists, chemists—in a word, practical men. Their eyes must be turned from Washington to their States, counties, townships, districts, and homes. This is true patriotism; and the only patriotism that will perpetually preserve the nation.—*Gov. Wright.*

The Prairie.

BY GEORGE W. BUNGAY.

Behold the prairie, broad, and wild, and free;
Ocean of emerald grass and golden flowers.
'Tis God's own garden unprofaned by man;
There the sweet grass with its green finger points
To Him who feeds it, with His hands in clouds.
'Tis there the rainbow-tinted flowers send up
Incense from flaming cups of purest balm.
There yellow bees hum out their drowsy songs
Upon the bosom of the wild white rose.
There, striped with green and gold, the serpent glides
With deadly venom 'neath a tongue of fire;
And showers of insects fluttering in the air
On gauzy wings so various dyed, they seem
The happy offspring of the gorgeous flowers.
Gay birds, like winged blossoms filled with song,
Pour forth their roundelays from morn till eve.
That jewel of the air, the oriole,
There hangs his cradle on the lonely tree,
And bland winds rock it with their unseen hands,
And nature watches it with stars in heaven.
—*Rural New-Yorker.*

Fall Plowing for Corn.

ED. FARMER: Against the advice of some of the oldest farmers of this vicinity who told me I was throwing away my labor, I plowed the ground last fall that I intended to plant to corn in the spring; preferring to follow the advice of the FARMER and my own judgment, and to fully satisfy myself in the matter of fall plowing for corn. I left a piece about four rods wide through the lot, (as good land as any of it) unplowed, plowing the whole lot again in the spring. I find in husking this fall that the crop is fully one-third less on the land which was not fall plowed. I have not had as much experience in farming as a great many in Wisconsin, but if it makes as much difference generally to fall plow corn ground as it has done in mine this year, it would be well for farmers to know and *do* it.

Short articles from farmers in the State, reciting their experience and experiments in this as well as other matters, would be read by the undersigned with pleasure and profit.

G. H. ADAMS.

DANVILLE, Wis., Oct. 14, 1862.

MUCK FOR THE COMPOST HEAP.—This is the latest month within which muck can be conveniently taken from its bed and put in a condition for enjoying the benefit of weathering. Throw it up into banks or heaps and allow to freeze and thaw during the winter; then remove to the barn yard, mix with ashes or lime

and ashes—which will correct its acidity—and compost with stable manure; using a much larger proportion of the muck than of the manure.

By this means the manure will lose its odor and preserve its valuable gases, and the whole mass will be converted into the most valuable kind of food for plants. Try it.

STOCK REGISTER.

Wants an Opinion on Cooked Food for Cattle.

ED. FARMER:—Will you, as early as convenient, give us in a future No. of the FARMER, the benefit of your investigation, as regards the best and most economical method of fattening beef cattle for market?

While on a recent visit to Ohio, I conversed with an intelligent and thrifty farmer who informed me that he never fed corn to cattle without boiling; assuring me that one bushel thus prepared was better than two bushels fed *without cooking*. This farmer not only fed his beef cattle with boiled corn, but also fed his horses, and other cattle, both young and old, in the same manner. As corn is not as cheaply grown in Wisconsin as in Ohio, if therefore the quantity grown can be practically doubled in the cheap manner indicated above, it will be worthy of attention of our farmers.

H. DAWES.

MAUSTON, Juneau Co., Wis., March 13, '62.

Rules for Breeding.

The Editor of the *American Stock Journal* gives his readers, in the August number of that periodical, a valuable paper upon breeding. He first asserts that every breeder, whether for the market or for use, should *breed for a definite purpose*. This he adds does not prohibit judicious crossing of the stock you possess with that which possesses the qualities you desire to transmit. His third rule is, "always cross with pure blood on one side." On this head he says:

"The great error committed by the thoughtless and unskillful, breeder is, that seeing that a first cross is often an improvement, he fancies that a second cross, or breeding by cross breeds must also give the same result. It is a mathematical view of the subject, at least, to infer that if the first cross gives a half-blood, the progeny of two half-bloods should be half-bloods. But, practically, this does not seem to be the result, for, although the first cross usually partakes quite perceptibly of the characteristics of both parents, it not unfrequently happens that the progeny of half-breeds is devoid of all uniformity, and entirely unreliable. This is particularly observable in swine. A cross of pure Suffolk with any mixed breed, will usually give an even litter of half-breeds, but a further cross with half-breeds often gives a miscellaneous lot of animals of little value. The pure blood seems to improve the first generation, but to loose somewhat of its impressive power for the future. There is in all cross-breeds a propensity to *take back* to some pure stock, and it is not unlikely in the cases we have mentioned, the progeny is only a reproduction of some breed whose characteristics have lain dormant for years. To keep down these old qualities. and perpetuate those that are valuable, we should use always pure blood on one side. In this way the progeny becomes purer and purer, until, in a few generations, no trace of the cross is observable. We understand that the same is true of the human races, to some extent at least. The child of a negro and white is a mulatto, and so long as one parent is of either race pure, the progeny is healthy and strong, but the children of mulattoes are usually feeble and various in complexion, taking back more or less toward a pure race, and in a few generations of such crosses the race becomes extinct through barrenness or disease. We have in mind one instance in which a gentleman who had taken much pains to introduce the North Devons into his neighborhood, reared a bull from a pure Devon bull and a three-quarter Devon cow, the other quarter being Short Horn blood. The calf had every mark of a full-blood Devon of the true mahogany color, but his progeny were almost invariably marked with white, and disappointed their owners who at that time considered no Devons of pure blood unless of a uniform dark red. A pure blood Devon bull of that color, usually gives his color to his progeny, by any cow of mixed breed.

AMERICAN PORK ABROAD.—Advices from Stockholm, under date of July 18th, state that American pork is in great demand, and preferred to Russian. It is admitted into Sweden duty free. Common sides and shoulders from Indiana and Illinois sell freely at ten cents; smoked hams at twenty cents. There is ready sale also for rosin and leaf tobacco. The former pays a duty of 1¼ cents per pound. The grain crop is short. Wheat, good quality, brings $1,85; rye $1,40, and oats 37 cents. All kinds of grain are admitted duty free.

☞ A Devon Cow belonging to Mr. John Corp, of Freetown, made 12½ pounds of butter in seven days—sixteen quarts of milk making 2 lbs. 3 oz. of butter.

Value of Cows.

The *American Farmer* lays down this method for arriving at the cash value of cows offered in market as milkers:

"If two cows were put up at public sale, one of which would give six quarts of milk daily for ten months, and the other twelve on the same food, the former would find, probably many more purchasers at $20 than the latter at $50. Let us see whether such an estimate of value is correct. Suppose the cost of feeding to be 15 cents per day for 365 days, the cost of keeping each cow would be $54.75. Estimate the milk at 4 cents a quart for 300 days, and we have from the six quarts over $72 in value, from the other $144—from the former $17.25 above cost of feeding, from the latter $89.25. Now, if one of our boy readers will cipher out the following sum, he will find the answer readily!

If a cow giving $17.15 net profit be worth $20.00, what will one giving $89.25 be worth?

$17.25 : $20.00 : : $89.25=$103.47, making the twelve quart cow worth $103.47.

Or if she be considered worth but $50.00, then the other would be worth but $9.66, as appears from the following proportion:

$89.25 : $50.00 : : $17.25=$9.66.

In other words, while the twelve quart cow gives only twice the quantity of milk, she is worth five times as much money, estimating with reference solely to milk. The presumption, however, is that the cow giving the smaller quantity would be worth much more for beef at the end of ten months, and this is to be considered in the estimate of money value. It may be, too, that the smaller quantity of milk will yield a larger proportion of butter, and if so, this, too, where butter is an object, is to be considered. But, after all, it will be found in nine cases out of ten, we place too low an estimate on the good cow as compared with the poorer one."

Big Men and Good Horses.

The traveling Editor of the Dubuque *Times*, among other things mentioned about Charles City, Floyd county, says:

"Mr. Geo. S. Ruble, keeps at the City Hotel, one of the best stallions in the State. We hope to see it and its proprietor at the State Fair. The Ruble boys should all come and be seen. There are four of them, all exactly six feet and two and a half inches tall, and no one of them weghs less than two hundred and fifty pounds."

We have no doubt the "Ruble boys" will be there, not only with their fine horses, but with their fine Shorthorns, swine and sheep. We want our Iowa farmers to see some of their Southdowns, If the sight don't make them feel decidedly sheepish, they need indulge no fears thereafter of ever having the wool pulled over their eyes.

The "Ruble boys" have a small farm near Beloit, *Wis.*, of about nine hundred acres of land, on which stands a small barn, between one and two hundred feet in length, and otherwise duly proportioned and finished. They have stock and implements to match their farm. The "Ruble boys" will be there and no mistake.—*Iowa Homestead.*

Eminently *sound.* The Messrs. Ruble are thorough-going enterprising Badgers, and it affords us great pleasure to see that they are appreciated abroad as well as in their own State.—[Ed. Farmer.

A Horse with the Heaves.

I tried all sorts of heave powders on my patient, with no effect whatever. It is said that in a limestone country, the disease is unknown, and lime water was prescribed with no apparent advantage. Some one told me to give the horse ginger, and strange to tell, I found that a tablespoonful given to the "General" with his oats, would cure him for the day, in half an hour after he had eaten it; but on giving it daily the effect soon ceased. It is a jockey's remedy, and will last long enough to swap upon. Finally, I was advised to cut my horse's fodder and give it always wet. I pursued this course carefully, keeping the "General" tied with so short a halter that he could not eat his bedding, giving him chopped hay three times a day, and never more than a bucket of water at a time.

He improved rapidly. I have kept him five years, making him a *factotum*—carriage horse, saddle horse, plow and cart horse—and he bids fair to remain useful for five years to come.—Kept in this way, his disease does not lessen his value for speed or labor, a single dollar. When the boys grow careless, and give him dry hay, he informs me of it in a few days by the peculiar cough I have mentioned; but sometimes, for six months together, no indications of disease are visible, and he would pass for a sound horse with the most knowing in such matters. There is no doubt that clover hay, probably because of its dust, often induces the heaves. Stable keepers with us, refuse it altogether for this reason.

Many suppose that the wind of the horse is affected by the heaves, so that fast driving at any time will, as we express it, put him out of breath. With my horse, it is not so.

When the "General" was at the worst, rapid driving, when just from the stable, would increase his difficulty, but a mile or two of moderate exercise would dissipate the symptoms entirely. We have, occasionally, what are called *wind-broken* horses, which are nearly worthless for want of wind. They can never

be driven rapidly without great distress, and frequenty give out entirely by a few miles' driving. This is thought to be a different disease. The "General's" case is, I suppese, a fair example of the *heaves*.

I have no doubt that regular feeding with chopped and wet fodder, and exclusion of dust from hay fed to other animals in the same stable, would render many horses now deemed almost worthless, and which manifestly endure great suffering, equally valuable for most purposes, with those that are sound.—*Indiana Farmer.*

WELL VENTILATED AND ROOMY STABLES.—Professor Simonds, the distinguished Veterinarian, in a report to the Royal Agricultural Society, opposes the crowding of cattle and other domestic animals into small tight stables. The Professor is right. There is nothing more prolific of disease than the bad air which must come of a close barn crammed with cattle, horses or sheep.

Not so open as to freeze, nor so close as to suffocate and poison. That is the plain simple rule.

Wool Growing.

The Secretary of the Vermont State Agricultural Society, Daniel Needham, in his annual report, has the following remarks upon the important subject of wool growing:

"The price of wool for the next few years, reasoning from analogy, must be high. The cotton crop will not be planted extensively at the South, as it has been in years past; and if the blockade is not raised by the first of April next, in many States it will not be planted at all. Should the rebellion not be suppressed within another year, as very likely it may not be, very little of the cotton crop of 1861 will find its way to market for the next eighteen months; and when we consider that the people must be clothed; that the use of woolen fabrics during the present high price of cotton goods, is much more economical; that the million of men in the field wear and destroy, in weight, a third more of clothing than in the peaceful avocations of life; that at the South all the carpets have been cut up into blankets, and that very little of the worn out stock will be supplied until peace is restored—from the fact that the South has not even the raw material to replenish with—the whole seceding States not producing as much wool as the State of Ohio alone; it can be seen, that not only during the war, but at its close, when the million of men in the army return to their former employments, discard their military clothing, and dress as they were wont in broadcloth and doeskins, the price of wool must continue above the average price for the last five years. In time of war, the quality of wool is a matter of no small consequence. Vermont has limited herself to the production of the finest wools. But the wool most in demand now, and bringing the highest prices, is a coarser grade. The query may well be made, whether it will not be equally profitable for us to turn our attention to the production of a somewhat coarser staple, and at the same time furnish richer and higher priced mutton for the market."

SCARCITY OF PURE ARABIAN MARES.—The Arabs' love for their mares, and the jealous care with which such animals are treasured in the East, have formed the subjects of many an interesting story. There is no difficulty in obtaining any number of Arab stallions, for example, of the very purest blood; but it is next to impossible to procure an Arabian mare of very high reputation. A modern writer on the subject tells us that it is even considered a crime to sell one under any circumstances; and in proof of the resolute opposition to the practice, a case is related as having lately occurred in Calcutta, where some Arabian dealers had sold their horses, and in consequence of a heavy bribe, one was induced to part with his mare. Some weeks afterward, when the dealers had gone homeward, the senior of his party was observed to have returned to the city, a distance of several hundred miles; he lured about for some days; subsequently, it was discovered that he had inquired for the stables where the mare was kept; she was found poisoned, and he had disappeared.

COST OF FANCY STOCK.—The expenses of Wombwell's menagerie are stated at £25 per day; or above £12,000 a year. A fine elephant bought by Mr. Wombwell cost him 1,000 guineas; tigers have been sold at £300 each; a panther is worth £100, hyænas from £30 to £40, zebras from £150 to £200, an ostrich £200. A rhinoceros (one-horned) once fetched £1,000; three giraffes cost the Zoological Society, Regent's Park, £700, exclusive of exclusive of expences. Wombwell gave £75 for a pair of boa-constrictors.

A pound sterling (£) is about equal to $5 American coin.

CLOVER HAY FOR COWS.—The *N. E. Farmer* states that Mr. John Day, of Boxford, Mass., who cuts large quanties of clover, feeds it out principally to his milch cows, and he finds that when the clover is exhausted and he feeds timothy and red top, "twenty cows immediately shrink two cans of milk per day!"

THE POULTERER.

Fattening Poultry.

From an elaborate and excellent article in the *Scottish Journal of Agriculture*, we extract the following:

"There may be said to be three principal modes of fattening, one of which is natural, allowing the fowls a greater or less degree of liberty, and supplying as much nourishing food as may satisfy their appetite. This method is generally preferred among us, and many experienced poulterers affirm that they can obtain as good fowls in this way, as by any description of forced feeding. In France, the prevailing impression is different. The two other methods are artificial; one of them consisting of the forced intromission, at certain hours, of paste composed of farinaceous substances; the third, by causing the fowls to swallow, by means of a funnel inserted into the mouth, farinaceous substances in a liquid state. This latter method named *entonnage*, is so simple and rapid that it is thought likely to be generally adopted in preference to any other. The filler or funnel, made of white iron, should be of sufficient size to hold one meal, having a ring below the rim externally, for receiving the forefinger and thumb, and the orifice at the lower extremity cut aslant, the edges surrounded with a thin coating of India rubber, to prevent injury to the walls of the throat. The beverage which by this means is to be introduced, consists of barley meal, (not bruised barley,) mixed up without knots in equal parts of milk and water. When all is ready, the fowl is seized by the wings near the shoulder, the head held forward between the knees, and grasped by the left hand, while the right holds the funnel, opens the beak, introduces the instrument into the gullet, and the proper quantity of the mixture is poured in. The quantity of the latter should be about the eighth part of a litre, but only half that quantity is given during the first three days. This dose must be given regularly three times in the twenty-four hours, at intervals of eight hours. The boxes or frames containing the fowls should be placed in a stable or other temperate place, protected from currents of air, and they should be littered with straw, the litter frequently renewed, and every impurity removed. The duration of this treatment is from fifteen to twenty days; if it fails to be successful within that time, the subjects should be withdrawn and otherwise disposed of.

"There is one important purpose which appears to us attainable more readily by forced feeding than in any other way, and which has not received the attention which it seems to merit. The great defect of the flesh of poultry as food, is its comparative want of flavor—it is somewhat insipid and tasteless. This deficiency we at once acknowledge, and endeavor to supply by eating along with it ham, or tongue. Much, therefore, would be gained if we could impart to the flesh, otherwise so tender, and nutritious, a greater degree of raciness and taste. Artificial feeding seems to present us with the means of accomplishing this; not only, indeed, of giving it savor, but even the very degree and kind of flavor which may happen to be preferred. We might thus make game of our chickens, not in the ludicrous, but literal sense of the expression. We might give them the game flavor; we might impart to them the piquancy of flesh found in various kinds of wild birds; and even possibly render it so odorous and fragrant as to surpass them all. The effect that the nature of the food has on the qualities of the flesh of animals, is well known. That of the caper-caille has the scent of the fir-shoots on which the bird feeds; hares, inhabiting low, wooded regions, have less flavor than such as live on mountains. Domestic rabbits are always insipid when compared with wild ones. Birds feeding on certain berries—those for example, of the juniper—acquire the perfume of their principal food. Such instances might easily be multiplied. They are sufficient to countenance the idea, that, by mingling aromatic substances with the farinaceous aliments which form the basis of their food, we could vary at will the flavor of our poultry, when subjected to forced feeding.—Substances for this purpose might be derived either from the mineral or vegetable kingdom; from the former cautiously. Flavored berries, such as the juniper, the aromatic buds of trees, the tops of labiate plants, such as thyme, lavender, odoriferous barks, &c., would form materials to work with. They would not require to be used but towards the close of the period of fattening, as a short treatment would be sufficient to perfume, at our wish, the whole flesh of the animal. In this way, the value of our common fowls might be greatly increased, and they might be brought to equal, and even surpass many kinds of game."

How to Select Poultry.—A young turkey has a smooth, dark leg, feet supple and moist, and the end of the breastbone pliable like gristle. If the head is on, the eyes are full and bright if fresh killed. Fowls, when young, have smooth combs and legs. In other respects they are like young turkeys. Young geese have yellow bills and feet, and a pin head may be forced through the skin of the breast. (It requires considerable pressure to thrust a pin through the breast of an old, tough goose.) If fresh, the feet are pliable. The same rules apply to the selection of ducks. As a general rule, all old birds have bony claws, that are not easily straightened. Young birds have pliant and easily yielding claws. The spurs of old turkeys and roosters are hard, long, and sharp. Of young ones but the first development is seen.

THE BEE KEEPER.

Apiary in November.

There is no month in the whole year in which less labor is required about the Apiary than this; not even the same attention that is necessary in the winter months. The first severe freezing appears to chill them more than the most severe weather of winter, and any one who has been unable to thoroughly examine his stock, will now take advantage of this period. Those that cannot be wintered without stores, or bees, should be taken now.

The kind, benevolent heart that would be deterred from taking the lives of bees now, rather letting them starve, or freeze, on account of the smallness of the colony, is laboring under a sad mistake. [*We* don't like the idea of killing bees at all. Think it barbarous and at the same time very poor economy.—Ed.]

Seeing that there is so little labor to be performed about the apiary during this month, it would be well enough to attend to little jobs, such as making hives, or buying and preparing for future use. It certainly is not my place to dictate what hive shall be used, yet a few words may not be amiss to beginners: In the construction of a hive, let there be no divisions in apartments for the brood and winter stores—make it large enough for both purposes. A place for receiving the surplus honey should be combined with *all* hives—the top appears to be the proper place. Pay no attention to the many schemes that go around the country endeavoring to obtain purchasers for their "*patent hives*," and as an inducement, will tell you that bees will make far more honey, &c. Signify your incredulity, or have them leave one, and if upon a year's experiment they merit the recommendation, then it will be time to purchase. You will invariably find that one hive possesses no advantages over another in this respect, if the apartment is sufficiently spacious to allow the bees to work in their natural order; they will gather as much honey in a sugar barrel as the most approved patent hive. The faculty of managing the bees, dividing the surplus honey from the winter stores, examining the interior, and remedying all defects, thus lengthening the existence of the stock, thereby indirectly increasing the amount of honey.

All surplus empty boxes that are left upon the hives should now be removed to some dry place where they will not become mouldy or rusty. Such hives as are to receive a coat of paint, should now be painted, so as the rank smell may all pass off, as a new swarm will often desert a newly painted hive. In preparing hives for another year place a staple in the top of the box, so that at the time it receives the swarm, it can weighed, and said weight placed upon the top of the hive. In the fall it can also be weighed and the amount of winter stores ascertained. W. H. Morrison.

Troy, Wis.

A Look at the Apiary.

Upon the first appearance of snow, put all in order for the season; but until then, stocks that are to be housed should have the privilege of flying, thus shortening their period of confinement; those that are to remain out should now occupy their winter stand, protected from prevailing winds and where the sun will most likely strike the hive a short time at mid-day, so that combs unoccupied with bees may be sufficiently warmed to melt the frost or ice upon them; if otherwise, as soon as the bees consume the honey in places where they cluster, they will perish while seeking food from the frozen combs.

Ventilation must be secured, or the melting frost and snow will form an air-tight sealing at the bottom of the hive, thereby smothering the bees, and the moisture within finding no way to escape will shortly become moldy; raise the hive upon one side slightly, and bore a hole an inch or so in diameter on the opposite side—then, open the holes at the top, and cover with a box to receive the rising moisture and keep out rain and snow. Never close the hive entirely, longer than a few hours in very cold weather.

In wintering stocks in the house, the room should be kept warm, for reasons heretofore given; if the room is large and cold, it will re-

quire from 60 to 70 stocks to sufficiently warm it. The room should be kept dark, with perfect ventilation, so as to get rid of moisture. With the common box hive, without there is an opening between all of the combs, the moisture will condense and mold the combs. It is best to invert them on small sticks, as the objections to this method are less than those against moldy combs. A dry cellar is as good as a room above ground. W. H. MORRISON.

TROY, Walworth Co., Wis.

THE HORTICULTURIST.

A. G. HANFORD, : : CORRESPONDING EDITOR.

Apples.—The Bearing Year.

This significant expression defines itself to all observers of the habit of fruit trees, and especially the present year, when the common remark in this State is, "'Tis not the bearing year." While in the eastern States the opposite is true, where the orchards are remarkably fruitful.

We will not at this time attempt to elucidate the several theories of fruitfulness of "even years," "odd years" or "every other year," but the habit of alternate *fruiting* and *growing* years, is a fact well established in most varieties of apples, some pears and plums, and occasionally of other fruits.

The small fruits, as a class, are not subject to this variation, but if well cultivated and properly pruned, will yield their annual return, subject of course to destruction by frost, insects, &c.

It may be questioned whether the barrenness of the non-fruiting year may not be owing to some local cause, as that of frost or peculiar winds, which may be the case often with some varieties and in some locations; but the testimony of long observation is, that many varieties have the habit fixed beyond cure by any ordinary course of treatment.

Mr. Cole in his "American Fruit Book," claims to have first offered to the public the idea of the even year being the bearing year, as '46, '48, '50, &c.; subject to the local causes before mentioned, and says thirty years of observation of the same orchard confirms the theory. The observations were confined to New England, where he "never knew a great crop in odd years, nor a small crop in even years, the unfavorable weather may cut off the crop in some places.

He cites the case of one fruit grower "who raised 1500 bbls. the even year, and 50 the next, and as evidence that this was generally the case, he sold the even year at $1.50 per bbl. and the odd year at $3.00.

However this has been during past years, it is true that the Eastern States are this year luxuriating in plenty of fruit, and the same may be said in the Middle States, notwithstanding Mr. Coles' expressed opinion that the *odd* year is the bearing year in Western New York.

In our own State, and the Northwest generally, the year of fruitfulness with the apple, seems not to be fully settled upon by mother Nature, unless the past and the present season is the index of the future.

However this may be, we observe there are varieties which bear *every year alike;* other things equal, and other varieties with which the present seems the *bearing year.* For example of the former, the Red Romanite, Rawles Janet and Limber Twig, seem to bear every year, and great bearers at that,—contrary to the common idea, that annual bearers are not profuse bearers.

While it seems to be a non-bearing year with us, in the Northwest, there are some varieties which are fruiting profusely wherever we have seen them, as the Westfield, Seeknofurther and Vandivere, most beautiful specimens of these every other year bearers are lying before us which we picked from trees loaded with fruit.

It is very desirable to those planting orchards to select varieties which will give an annual return in the orchard, at least for a portion of them.

To this end we are making close observation and enquiry, and would gladly communicate

with those growing considerable fruit the present year in this State.

But a still more desirable thing would be for every successful fruit grower in the Northwest to communicate his experience to some good Western Agricultural Journal, particularly the FARMER, with minute descriptions of *tree* and *fruit*, of successful varieties, with name if known, location and soil of the orchard, together with some specimens of the fruit if practicable.

We promise the readers of the FARMER our collection of facts on this subject in due time.

Fruit growers, report! J. C. PLUMB.

MADISON, WIS.

A Plea for Fruit Growing.

BY PRESIDENT BROOKS, OF THE FRUIT GROWING SOCIETY OF WESTERN NEW YORK.

[The following address delivered by President Brooks at a late meeting of the Fruit Growers' Society of Western New York, is taken from the *Gardener's Monthly*. It is hardly necessary to say that we heartily endorse it, and hope it may be read with much profit.—ED.]

Scarcely any worldly interest is of more importance than the one you have met to consider; scarcely any has been treated with more indifference and neglect.

In the brief record of man's early history, we are told that "the Lord God formed man of the dust of the ground," put him into a garden and there made "to grow every tree that is pleasant to the sight and good for food." Yes, good for food.

He who wrought this miracle of miracles—man—and knew his wants, was careful to tell us, as His first announcement succeeding that creation, that He put man where there were trees "good for food," with the command to dress and care for them.

If the business men of this age were getting up a world, about the last thing they would think of would be a fruit tree, and about the last thing they would do would be to care for it. Fruit is rarely in our bills of fare, or comes in questionable shapes. If moderns have all the ailments that "the Elixir of Life" is warranted to cure, they had better consider how they came by them; possibly they may conclude to substitute apples and peaches for pastry and pork. It is my firm conviction that no person can enjoy uninterrupted health without the regular use of fruit in its ripe and natural state. In this I am supported by the highest medical testimony.

Profoundly as I admire the ladies, and admitting them to excel McClellan himself in "masterly combination," I will die before I will admit that they can ever flavor a Hooker strawberry or a Seckel pear. Whoever expects a French cook, or anybody else, to equal in richness and delicacy of flavor the products of the trees, pronounced on divine authority good for food, is audaciously unwise. Then let us have more fruit as a part of our regular meals.

Fruit, like everything truly valuable, must be sought with care and pains. The glittering prizes of this world are not drawn by careless hands. Richest gems are deepest down; brightest glories bought with sternest sacrifice; no wonder, then, that these fair products that have gathered perfume and flavor from Heaven's choicest stores come through much tribulation. True, here and there a bush or plant, revelling in forest mold mixed by God's own hand, gives us precious fruits, to show how things grow in Paradise; but the rule is if a man will not work neither shall he eat. I suppose a just God has sent armies of caterpillars, and all sorts of nasty worms, blights, and mildews, to punish laziness and indifference, and teach us all that eternal vigilance is the price of—*fruit*. Multitudes of men and women will start up and say, We have tried every thing; we have smoked, snuffed, ashed, limed, and kerosened the worms, till we have killed the bushes. What more could we do? I'll tell you. These enemies have been making their approaches for years; they first sent out their skirmishers, then established their pickets, but we paid no attention till they made their assault in full force, and then we were overwhelmed. Our agricultural and horticultural journals have been giving pictures of these insects for years, and telling us to be on our guard; but we paid no attention. When they were few we could pull their heads off, which I feel confident is a "certain cure;" but having outnumbered the locusts of Egypt and filled the ground with their deposits for another year, it will take a good deal of dust and smoke to use them up. Still, the regular use of slaked lime will kill the currant worm.

We want more thorough knowledge in all the departments of vegetable and animal life. We need more rigid scrutiny, a deeper insight into the causes and influences that work unseen by our careless vision. Learned professors, forgetting for a while the stars beyond our reach, the dead dialects. and the lowest strata, should strive to unfold the conditions of healthy growth and acquaint us with the weak points of our insect adversaries. We want sentinels at every point of observation. Deep and profound research should unfold hidden mysteries and bring to light the enemies that assail us. If a tree blights in this locality, and not in that, we should know what is peculiar to each. When different results are obtained, observe the precise difference in treatment; do it care-

fully and critically. Nature's laws are fixed and immutable—every tree and plant obeys them—there is no such thing as caprice or accident. Let science unfold these laws. If a result is obtained, we have only to put every thing in that precise shape again to obtain the same result without any variation. There is no uncertainty of results, if you know your instrumentalities.

You have come together, gentlemen, to talk and to listen; to exchange what you do know for what you don't know. Where there is so much to learn, and so brief a period to learn it in, it is our privilege, it is our duty, to avail ourselves of the knowledge and experience of others, and so thoroughly furnish ourselves for our work in the shortest possible time.

I take this occasion to express the great obligation that the whole country is under to gentlemen of large experience and matured judgment in fruit growing, who come here from time to time to communicate, without reserve, what they have learned on these subjects, and I ask, in all seriousness, of the public at large, a respectful hearing. The acknowledged difficulties that beset the growing of the finer kinds of fruit, furnish reasons enough for counsel together.

More than that, we need to have our interest *excited*, our efforts awakened, our enthusiasm kindled, by these discussions, these exhibitions, these friendly greetings.

If I knew all about fruit growing, I would make a pilgrimage here three times a year, on the same principle that the Arab goes to Mecca, the Catholic to Rome, and our Methodist friends to Camp Meeting. I always go home determined to dig about my trees more thoroughly, and put on a little more manure.

The neglect of fruit trees throughout the whole country is positively horrible. It comes among the catalogue of crimes: for no man has a right to leave out of his own life, or out of the life of his family, any comfort, or pleasure, or profit, which might be theirs. Hoping for a continued and increasing interest in our meetings, and in our discussions, I bid you double your diligence in this good cause.

The Dominie.—Wells Apple of Ohio.

Dr. Mathews, an intelligent and successful fruit grower of Burlington, Wis., writes us: "The Dominie is proving to be one of my best varieties."

Prior to the severe winter of 1855 and '56, the Dominie had become quite popular. In common with other varieties which fruited heavily the autumn previous, bearing trees of this variety suffered pretty generally; since then, it has been thrown out of the hardy lists of many Wisconsin cultivators. We lost that winter several out of 20 trees of this sort in our orchard. Most of those which survived were more or less injured, but had pretty much recovered and were bearing again in 1861.

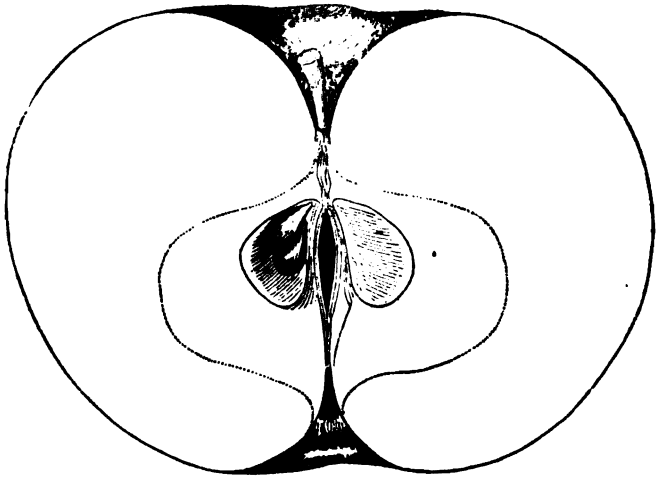
The Dominie is a strong grower, and early bearer and exceedingly productive; fruit above medium, greenish yellow, streaked with red, mild, subacid, juicy, and pleasant flavored. November to April. A. G. H.

COLUMBUS, Ohio.

Fruit Garden.

Established orchards, on thin or impoverished soil may be renovated in the following manner: If a tree has been planted say fifteen years, and attained the size we might expect in that time, get, say ten feet from the trunk, and dig a circle two feet deep all around it, and fill in with a good compost; the effect the next season will be quite marked. If the tree is older or younger, the distance to start with the circle from the trunk will of course be proportionate. A top-dressing will also be of great assistance, as well as a vigorous pruning out of all weak or stunted branches. Moss and old bark should be also scraped off, and if the trunk and main branches can be washed with a mixture of sulphur and soft soap, much advantage will follw. Old decayed bark on fruit trees is always a sign of a want of vigor. When a tree is growing thriftily it cracks this old bark so freely, as to make it easily fall off; but when the tree is weak and enfeebled, the bark often becomes indurated before it has got cracked, and in this state the tree becomes what gardeners call "hide bound," and artificial means must be afforded to aid the tree to recover. In the cherry and plum trees this is easily done, by making longitudinal incisions through the bark with a sharp knife. In the peach and apricot also, this process has been employed with advantage, in spite of the learned theories which have attempted to show up the absurdity of the practice.

Sometimes fruit trees are unproductive from other causes than poverty of the soil, or neglect of the orchardist. They often grow too luxuriantly to bear well. In this case root-pruning is very effectual, and is performed in a similar way to that described above, by digging a circle around the tree, except that the circle is made closer to the trunk of the tree. A fifteen year old tree, for instance, may be encircled at five feet from the trunk. No rule can be laid down for this. Judgment must be exercised. If cut too close, the tree may be stunted for years, and if too far, it will not be effective. The aim should be to reduce the roots about one-third.—*Gardener's Monthly.*



Fall Wine.

According to Elliott, this excellent apple was introduced West from the garden of Judge Burk, of Albany, in 1832. It is cultivated with success in most of the States, but is but little known in the East. In Ohio, Indiana, and Illinois, is quite popular under the improper name of the "Wine."

"Tree, of slender, slow growth; drooping, when in the bearing state very healthy; producing moderately, but annually, large beautiful fruit on our rich Western soils; and fruit of medium size on soils of moderate quality."

From the discussion of its merits by the Wisconsin Fruit Grower's Association, at their Annual Meeting, January, 1860, we quote as follows:

"*Brayton.*—Proved tender since the hard winters.

Plumb.—Excellent and productive; tree moderate grower and a little tender when young.

Hanford.—Tree does in my locality, fruit fine."

Elliott thus describes the fruit: "Size, medium to large; form roundish, flattened; color, rich red, marbled over clear yellow, and with many spots or specks of brownish—sometimes it is faintly striped; stem slender; cavity, deep; calyx, half closed; basin, open, shallow; flesh, yellowish, crisp, tender, juicy, delicious, sub-acid, vinous. Season, Sept. to Nov."

On account of its great beauty and superior flavor, we have long had a partiality for the Fall Wine, and would be glad of a fuller report upon its adaptation to this State.

Will not the fruit growers give us a few more words on this subject?

We want good fruit, but it must also be reliable, else it is not safe to recommend it.

MECHANICAL & COMMERCIAL.

The Great Trial of Steam Plows at Farningham, London.

Some our of readers will remember the enthusiasm with which we hailed the advent of the famous Fawkes' Steam Plow upon the vast prairies of Illinois in the autumn of 1858. Not that we regarded that particlar plow the perfection of its kind, but rather a harbinger of "the good time coming," when steam should, to a great extent, take the place of muscle upon the farm, as it has long since more extensively done in the manufactory. It would be natural, therefore, that we should seek an opportunity of witnessing a demonstration of what has been accomplished in this direction in England.

The great trial at Farningham under the auspices of the Royal Agricultural Society afforded such an opportunity and we cordially embraced it. Left Victoria Station at 9 o'clock in company with our esteemed friends, Flint of Boston, and Smyth of Manchester, N. H., and after a rapid whirl through the far-reaching suburbs of London and a dash into the country, passing numerous highly cultivated fields of wheat, barley and hops, arrived at the station above named, some 24 miles in a southeasterly direction, in the famous county of Kent.

The smoke of some half-dozen steam engines indicated the direction to be taken, and away we went, some hundred curious enquirers from various parts of the world—France, Germany, Italy, Russia, Scotland, Ireland and the United States—a motley crowd—some on the trot and others with a more assured and dignified step, to the scene of trial.

Just before reaching the spot, a short turn in the road brought us up suddenly before an iron monster, with heart of fire and breath of steam, snorting and dashing up the hill, like a very devil of the olden time! A shout and a bound, and we left the road to his unembarrassed progress. This singular looking creature proved to be Aveling's Agricultural Locomotive Engine. It had been sent a mile distant for wood and water, and when its wild scream first startled us, had in train several tons of these essentials, though moving up the steep grade with all the majestic ease of an elephant drawing a light barouche. We afterwards saw it climbing steep hills in a stubble field, with its train full of curious spectators. A single engineer directed its movements with perfect facility, causing it to make graceful curves or short turns as occasion required, or pleasure dictated.

"This engine has an improved patent extra-large boiler, fitted with 37 2¾ inch tubes, external plates of the best Butterley iron, fire box and tube plates of Bowling iron, with extra stays for high pressure. The fire grate measures 31 inches, by 34, and is suitable for wood or coal fuel. The cylinder, 10 inches in diameter, is surrounded by a jacket and placed on the forward part of the boiler; by which arrangement priming in ascending steep inclines is prevented. The crank shaft is of common iron. The engine is fitted with improved governor, reversing link motion, patent tender and water tank, under foot-plate, driving chain and gear, steam-pressure gauge, extra lock-up safety valve, steam jet blower, firing tools and wrenches, driving wheels 5 ft. 6 in. diameter, 12 inches wide, patent steerage and screw break for descending inclines." It is remarkable for simplicity and power—being capable of drawing 10 tons up an incline of 1 feet in 6 and is easily managed by any ordinary engine driver.

But what of the *steam plowing?* The two prominent plows in England are those of Fowler, of Cornhill, the original inventor of the steam plow, and of the Messrs. J. & F. Howard, of Bedford. Both of these, together with others, engaged in this trial. Fowler's came first in order and shall, therefore, be first described.

As we entered the field the engine and windlass were stationed on the left headland, the self-moving windlass on the right. Between these the plow—which consists of a diamond shaped iron frame, on wheels, but so bent in the middle that one end is up in the air while the other is on the ground, and of 8 plows, four on each end of the frame—is pulled backwards and forwards; 4 of the plows being so pointed as to work in one direction, while the other 4 pointing in the opposite course are waiting to do their work when the machine returns. In this way all turning about is avoided.

The engine appears like an ordinary locomotive farm engine, except that it has, under the boiler, a clip drum for hauling the plow. The rope used is made of wire and is kept from dragging on the ground by simple supports easily handled by a strong boy.

The 'anchor' consists of a *sheave*, or clip drum, on three disc wheels, which by cutting into the ground prevent the whole concern from being dragged towards the engine. Upon the top is placed a box into which weights may be placed to cause the discs to sink deeper than they otherwise would, if required.

The soil in which this plow was working is a gravelly loam, not particularly favorable to success, yet good enough. The work was well done—the furrows well turned, and about 6 inches deep. Time required to plow an acre, about 75 minutes.

This plow also operated a cultivator, similar in construction to the plow, but with 7 cultivator teeth or scarifiers instead of the 4 plows. It did its work well.

The Howard apparatus differed from the preceding, in that the engine was stationary

during the plowing of a given field. Instead of the clip drum for winding and unwinding the rope it has a separate reel resembling the hose cart which belongs to a common hand fire-engine. This reel is placed along side the engine and operated by a shaft and cog gear, which passes over the top of the two wheels which support the drum. The power is communicated to the plow—which resembles Fowler's—by means of a wire rope aided by four pulleys anchored to the ground; two of said anchors being located at the two corners of the field towards which the plowing is being done, and the other two so stationed as to enable the engine to pull the plow back and forth—themselves being moved up as the work progresses.

This plow likewise did good work.

But the great question arises, Is steam plowing in England economical? To this we are bound to reply, No, we think not. The best work that we have ever heard of either of these plows doing was ten acres in ten hours; and this is remarkable success. Six to eight acres per diem is probably the average. And when we consider the cost of the apparatus—$1500 to $2000; though the engine may be used for other purposes—the wear and tear of ropes and machinery, the consumption of fuel, the number of men employed and the liability to delays by breakage and other derangements, it looks to us like small results for the investment.

Such work as we saw could have been done equally well by four men with each an ordinary Yankee plow and one span of horses and at an expense of, say, $10; while here were employed an expensive engine—costing more than eight horses and of much less general use on the farm—a horse and cart to supply fuel and water, and eight men. But it is furthermore fair to infer that on a trial such as was this, more and better work would be done than would be practicable as the average; so that it is probably more nearly correct to offset three men with plows against the steam apparatus, instead of four. Such being our premises we cannot get the consent of our judgment to endorse the steam plowing of England as economical, unless it be on very large estates and under peculiar circumstances.

We stick to the *idea*, however, and shall continue to hope for its full realization, at some day, on our glorious Western prairies.

The Great Pacific Railroad.

[The very able address, from which the following extracts are taken, was delivered before the Convention of Corporators recently held in Chicago. Its great interest and importance constitute a sufficient apology for the space we have allowed it to occupy. We are indebted to *Hunt's Merchants' Magazine* for the means of presenting it to our readers in advance of its official publication by the Convention.—Ed.]

Mr. President and Gentlemen.—Our national character was never better illustrated than on the present occasion. In the midst of a causeless and desperate rebellion against the happiest form of government which humanity was ever inspired to establish, while in the midst of an enormous expenditure of treasure, and the effusion of our most precious blood to preserve this Union, undeterred and undismayed we assemble here to-day under the authority of the National Legislature to organize an enterprise of the vastest proportions and with the most momentous results. A railway across a continent, a connection between the two great oceans of the globe, and a change in the traffic of Europe, Asia, and America—these are the objects which present themselves for our consideration. After years of discussion, numerous surveys, and a general conviction that the proposed work is within our power and our resources, we have been selected to give form and tone and character to the project, and we here thoughtfully, I trust, assume a responsibility which is not for a day, but all time. It It is with this feeling I approach the subject, happy to be among the number of those to whom so great and honorable a trust is confided by the people of the United States. This is a meeting of corporators for the time being, intrusted with important duties, so important that on our present action the success of the enterprise may essentially depend. * * *

This Pacific Railroad is an absolute, exacting necessity. We have a sister State on the shores of the great ocean, which we early sought to reach, to which the star Empire was leading us, and at which we now have actually arrived, unequalled for its mineral wealth, its admirable climate, and its exhaustless fertility, an empire in itself, an ally, a friend in need, the most civilized and prosperous country on the whole Pacific Ocean, not a colony of tawny natives, mixed up with European masters, held

by force, and robbed by them at pleasure, but a republican State, recognizing the laws of Christianity and civilization, already mature and prosperous. Sprung originally, like another Minerva, from the brain of the American Jove, California could, after a few years, build this road alone. According to the government survey she possesses four hundred thousand square miles of territory, which would give eight States as large as New York, fifty as large as New Jersey, and fifty-seven as large as Massachusetts. With a population equal per square mile to that of New Jersey, California would support eighteen millions of inhabitants; if equal to New York, twenty millions; and if equal to Massachusetts, forty millions.

That she will be a staunch supporter of the work is very certain. Her representatives in Congress in fact secured the passage of the act. Her sons are here with us to-day to see if we comprehend the vastness of the enterprise. To leave such an ally and friend to the hazardous connection of long and dangerous voyages, to the border intrusion of two large foreign dependencies, Russian and British America, would be but a poor return for their loyalty to the Union, and a poor exchange for the valuable products she now sends to us through her golden gates, and which enable us to meet the unfriendly drain of the foreign bankers, not only with impunity but indifference. In the spirit of enlightened selfishness, then, if in no other, we must perceive, that the construction of this railroad is an absolute necessity and an unexampled advantage to ourselves. We have not only a large and profitable trade with California, but with countries far beyond, which has been conducted, though spiritedly, perseveringly, and profitably for many years, yet at an unnecessary cost. The road to India, to China, to Japan has been a long and circuitous one; we have had to pay toll to the turnpike keepers, the bankers of Liverpool and London, when we wished to pass to the East for our teas, our silks, or our drugs. Freights, insurances, commissions, and premiums on bills of exchange have piled up their charges upon our imports, on something of the principle of Kepler's famous law, increasing "as the square of the distance."

Let us have this road and our invoices will be shorn of most of these items, so formidable in any European account rendered, as many of us no doubt have happened to know. All we save in these will be a reduction in price to the consumer here at home. The day is near at hand, I trust, that when we drink our cup of tea, we shall do so without having lost a single drop to any inimical banker.

The extent and importance of our East India trade have been growing familiar to the American comprehension. But before we examine into this, let us see what we are to gain by it for ourselves. In Congress, and while the Pacific bill was under consideration, Mr. McDougall, the Senator, and Mr. Phelps, a Member of Congress from California, most ably presented this subject before it, being comprehensive and masterly in their arguments in favor of its passage. Mr. McDougall stated the fact, that the United States Government paid yearly for transportation to California, to be saved by the use of this road, no less a sum annually than $7,357,000. This was no guess work, it was taken from the Report of the Chairman of the House Committee. It is about 100 per cent more than the interest guarantied by the Government on the completion of the road. This difference, with the five per cent reserved to the Government by the bill, will pay the whole principal an interest of the bonds years before they mature.—[See *Evening Post*, July 6th, on Mr. McDougall's speech.]

But let us see for a moment, and realise if possible, the results of Mr. McDougall's calculations, which I learn from him, were the result of months of careful consideration, and which are below rather than above the mark.

From his speech in the United States Senate on the bill, we make the following extracts:

STARTLING CALCULATIONS AS TO THE PACIFIC RAILROAD.

The present cost and loss of the transportation of men and merchandise between Boston, New York, Philadelphia, and Baltimore on the one side, and San Francisco on the other, from the best compiled statistics, may be stated thus:

Passenger transits both ways, including overland transits, 100,000, averaging $150 per capita	$15,000,000
Time of passenger transits, average forty days, and counting them as dead labor, while in transit and otherwise, their average labor worth two dollars per diem	8,000,000
Freights both ways around the Horn, 215,000 tons, at an average of $20 per ton	4,300,000
Value of freights both ways, other than gold and silver, $110,000,000. On this, by the reason of twice passing through the tropics, there is, from leakage, sweating, and other causes, a loss of not less than seven per cent not covered by insurance,	7,700,000
Insurance, and gross losses uninsured; that is, where parties are their own insurers, three per cent	3,300,000
Interest on the capital which may be considered dead while 135 days in transitu—say four per cent	4,400,000
Government transportation, as stated	7,357,000
Isthmus transportation (excluding passengers) and insurance on the same	3,250,000
Freights to Nevada Territory, employing 2,000 teams 200 days each year, at a cost of twenty-five dollars per team	10,000,000
Passenger transits to and from Nevada	2,500,000
Passengers and freights to and from Denver and Salt Lake, estimated without data at	10,000,000
	$75,807,000

The cost of the same business and service by a continuous line of railroad from San Francisco to the point of delivery east, and the reverse, may be stated thus:

Two hundred and fifteen thousand tons, at $30	$6,450,000
Interest on $110,000,000 for ten days, one-third per cent	366,600
One hundred thousand passenger transits at $50 each	5,000,000

Ten days each passenger in transit, loss $2 per diem	2,000,000
One hundred tons gold and silver, $300 per ton	30,000
Isthmus merchandise	1,250,000
Nevada, Utah and Colorado passengers and freights, estimated	2,500,000
Damage and insurance	1,600,000
Government freights and transportation, computed as equal to interest	3,773,800
	$22,976,466

But there is another important view of this subject. Mr. Phelps, the Member of Congress from California, in his speech on the same subject, exhibits a statement eqally astounding as to the condition of our East India trade, and the losses it is subjected to on its present basis. He remarks:

"Our imports from China in the year 1857 amounted to $8,356,932, and our domestic exports to China, $3,019,000, leaving a balance against us of $5,337,032. In 1858 our imports were $10,570,536, and our exports $2,467,645, leaving a balance against us of $8,102,891.—In 1860 our imports from the same source were $13,566,641, and our exports $7,170,784, leaving a balance against us of $6,395,802. These figures exclude the exports of gold and silver. It will be observed that our trade with this nation is rapidly increasing, our imports having risen from 1857 to 1860 about sixty per cent.

* * * * *

"It is reasonable to suppose that under any circumstances the balance of the trade will not at any time be less than in 1860; say, $6,400,000. This amount of indebtedness is mostly paid through English houses, at a cost to us of about twenty per cent. At this rate, continues Mr. Phelps, the cost of remittance is $1,280,000 annually, and becomes a part of the price to the American consumers of tea.

"If we can, by the construction of this road, turn this treasure shipment to new channels, and it can be made from San Francisco in twenty-three days, saving from the present specie route at least sixty days in time, reducing the cost of shipment, including exchange, freight, interest, and insurance, to not exceeding four per cent, it would cause a net annual saving to our people of $984,000. To the sum thus saved should be added the cost of the same amount of treasure shipped from San Francisco to New York, which cannot be done at less rates than three and one-half per cent, and would amount to $259,000.

"I may very properly add, that the *entire* balance of trade against us on what is known in mercantile parlance as the East India trade, will not fall short of $18,000,000 per annum. On this sum the saving in exchange would amount to $3,600,000. But these are but a small portion of the benefits this country would derive from the diverting of the specie route of the world into American channels of trade."

Fifty millions of treasure which annually find their way to the East by the old commercial routes, would necessarily change their direction and come westward over this road.—Nor was Mr. Phelps out of the way when he said this. Its construction is even now as much dreaded by our foreign enemies, as the restoration of the Union itself. Not long since I cut from a leading London journal a paragraph founded upon this very supposition, though first suggested by speculations in a California print. It reads thus, and is so pertinent that I may be excused for asking attention in its details:

"The California papers state that an enormous sum of money would be saved by English, French, and American merchants in premiums on gold if a steam communication existed between San Francisco and China. California sends to the eastern States of America, England, and France, eight millions sterling of gold yearly to pay for goods which it wants. San Francisco is twenty-five days from China, the Eastern States of America are seventy days, and England and France are sixty days from China. A New York house, we will say, imports every year £100,000 worth of goods from China, and exports goods to the same amount to California. That State pays three per cent on the £100,000 worth of gold sent to the New York house, and the latter pays six per cent to send it to China. Now if steam packet communication existed between San Francisco and China, there would be no necessity to incur the expense of thus sending specie three parts round the globe. California could pay to China the £100,000 owed by the New York house, and thus California, China, and New York would by quits. A telegram from New York to San Francisco could manage the business. In the same manner, California could pay to China what it owes to France and England. In ten days, by means of the Continental American Telegraph, A, in London or Paris, could send to B in San Francisco, to forward to C in Hong Kong, the amount owing from B to A, and which A owes to C. About seven per cent out af nine would thus be saved. Now, seven per cent on £8,000,000 is nearly £600,0000."

Thus we see the truth is beginning to be perceived abroad, and the article foreshadows the conclusion. I make but a single objection to its corollary—I say it with all possible good humor and courtesy—San Francisco will not be the clearing-house, it will be New York. Threadneedle Street, the barometer of the financial world, will find its fluctuations registered there, and Wall Street will be the vernier of the scale. * * * *

Is there any difficulty in the construction of this road? None worthy a doubt. The numerous government surveys, many of them made by engineers whom we now recognise as heroes, have settled the general question. The grades for a great portion of the distance are almost imperceptible. The materials are at hand, of sufficient cheapness to give assurance of an economical construction. More than

this, it is now demonstrated that railways may be built at a far less cost than formerly. One hundred and thirty-seven new railways are about to be commenced in the small islands of Great Britain, under the inducement that they may be built for nearly one-half less than they formerly were. Have we laborers in sufficient numbers to accomplish the work rapidly. This problem is solved by the fact, that we shall have at the close of this war nearly a million of men, who have been inured to fatigue, and the toils of the pick, axe and the spade, who have not only shown a love of adventure and action, but the qualities of endurance and resolution. Their employment will be congenial to their newly acquired taste and habits, and ensure liberal and profitable remuneration.—Emigrants from abroad will flock towards this line of industrial competition, just as when our canal system was commenced, or the gold of California was discovered. As the work will be continuous for many years, we may expect to see colonies settling around the local stations, each station a village or city perhaps, ganglions, knots, and supports to the great nerve which is to thrill with life, to become supports to it as it extends, and braces as it reposes, the great sympathisers with its activity and life. Nor is the work too gigantic in itself. It is said there were giants in other days. I think I can see such now. The American railway system was a Titantic labor, but it was completed. In ten years ending in 1860 its progress was unexampled. In 1850, the number of miles of railway in operation was 8,588 79-100 miles, at a cost of $296,260,128, about the amount of the whole specie in the country. In 1860, the number of miles was 30,592 72-100, the cost $1,134,432,909, an increase in mileage of 22,000 3-100 miles, and of construction $838,192,781. And four-fifths of this increase of these lines and this expenditure were in the loyal States of this Union, that having been their proportion in pretty much everything but political power, in whatever has been accomplished for the prosperity and glory of this Republic. In this honorable career of railway enterprise, the State of Ohio has led the van, having about 3,400 miles of rails laid within her limits. Illinois comes next with 2,854, New York next with 2,600, Pennsylvania with 2,300, Michigan with 1,673, Indiana with 1,284, Wisconsin with 803, Tennessee 837, and Missouri with 657.

In comparison, then, with the actual amount of money expended on railways during the ten years mentioned, and the increase of mileage 22,000, the work of constructing a railway to the Pacific appears to be but a very simple and easy undertaking. If 22,000 miles of these new railways could be made in so short a time, and $90,000,000 readily found for their construction, can we not build one not the tenth part of the distance within ten years, and especially when the greatest part of the money is advanced by the Government? In this view of the subject our greatest difficulties absolutely disappear. * * * * *

But to conclude, as we may obtain a better idea of a great structure by viewing it from a distance, than by looking up at it from its doorway, so of this project, we may best comprehend its grandeur by a slight change in our angle of vision. At the end of the present century it is calculated that the United States will contain a population of one hundred millions of people. What will be then the aggregate wealth of the nation no one has computed. Whatever it is now, will be then in the ratio of one hundred millions to twenty-seven, and equal to all the responsibility which in the course of events may fall upon it. We shall leave our descendants no petty patrimony of a crowded birth-place and room scarce enough to struggle in, but a continent accessible to every son and daughter of industry, and without a limit to the energies of posterity. We must not think this so formidable an enterprise, nor be alarmed at undertaking it. If we leave posterity a war debt to pay off, we give them the means to do it with. There are no doubt many conservative and over-timid minds that shrink from the very idea. So there were when the great Clinton projected the Erie Canal, and was told that it would never be filled except with the tears of a ruined people. So in our own city of New York. The Croton water system had honest opponents, who predicted that it could never be carried into effect except at the risk of bankruptcy; men of prudence they were, who preferred the safer course of buying water from the tea pump at a penny a bucket, to the hazardous one of bringing a large country river into town. So of the Central Park, a monument of a refined and philosophic spirit, so crowded with grateful visitors, that an admission fee of half a dime each would produce a revenue of $200,000 a year.

The Panama Railway, which is a faint adumbration of the Pacific, was a wondrous undertaking. But its capital and cost of about $7,000,000 are now practically equal to $40,000,000, on which interest is earned regularly and large dividends paid, while a fund is accumulating for future distribution and profit. I do not pretend to foresee what will be the dividend value of the Pacific Railroad to its stockholders. But when even Europe may traffic with Asia more securely, with more rapidity, and with more profit than by any route in the old world by sea or land, and when the distance from London to Canton, as now navigated, is 18,000 miles, and from New York to Canton will be but 11,000, I perceive that New York has advantage over London which must inevitably tell on the future of both cities, and end in the supremacy of that mart which commands the greatest trade. The business of this Pacific road will certainly enrich this country "beyond the dreams of avarice."

What towns, what villages, what pastoral wealth will be added to those it already possesses, and out of these what new free States will emerge into life and greatness! What innumerable auxiliary lines will branch off from the main trunk to newly discovered and fertile plains, to happy valleys, and to the exhaustless mineral wealth which lies yet "unprospected" in the teeming Sierras and the gorges and golden sands of the rivers which sweep their bases. What is to prevent millions of oppressed Europeans from abandoning their ties to the soil which gives them black bread for their daily food, and demands all else for their rulers; what is to prevent them from a general hegira to the regions of gold, when the transit will be so safe, easy, and economical, and wages may be earned at every mile of the way? In the direct advantages to ourselves, we may estimate the time saved in crossing to the Pacific Ocean and going to the Eastern world, the saving of expense in freights, in insuranc, in labor, the increased supplies of gold, the shifting of capital from Europe to the United States, the general distribution of means to live and to enjoy life, the advance of the useful and refined arts, the closer connection of the States, the consolidation of the principles on which our political fabric rests, and our entire independence of the *effete* European systems under which man has so long been kept down and "made to mourn."

All these results we may safely anticipate. The present troubles we are encountering, will prove blessings in disguise. In all ages and countries, principles important in their day bring forth their fruits at maturity. Waters long undisturbed become stagnant, and we should lay these trials to heart like philosophers, or what is best, like Christians. Many of the best elements in the American character, hitherto dormant and unvalued, are coming forth with an unsurpassed splendor. Fortitude, courage, persistency, self-denial, generosity, patriotism, ability, these have at last come to the front, where, I trust in God, they will remain, not again to be driven into the shade by political managers, who are forever "purring and mousing after petty schemes of political advancement."

Some of these qualities of the American character are showing their power in the development of this work we have in hand. We are to lay out and construct the longest continuous line of railway in the world. Its milestones, if I may be allowed an Irish license of speech, will be set along the parallels of longitude, which will be hourly passed by the trains, at a speed proportioned to their distance apart. Those travelers going west will enjoy a prolonged twilight, those coming east will have an earlier day. The journey will not be more than *we* shall have taken, who come hither from New York and are about to return. Finally, the revenve, the commerce, the crowds, the wealth, the prosperity, the national supremacy that this road will give birth to, overpower the most lively imagination. * * * * *

Mortar for Building.

In common practice, the cohesion for mortar is greatly impaired by using too large a proportion of sand; it should never exceed two parts, by measure, to one of lime paste. A cask of lime weighing 280 lbs., made into eight cubic feet of lime paste, should be mixed with 16 bushels of damp sand. The notion used to be generally entertained that the longer lime was slaked before it was used, the better would be the mortar made of it. This, however, is not the case with our common fat lime and sand mortars. The sand should be mixed with the slaked lime as soon as the latter becomes cold, and no more water should be employed than will reduce the lime to a thick paste. In preparing mortar, the unslaked lime should be placed on boards and sheltered from the sun and rains; it should be open above and surrounded with some sand. The water necessary to slake lime should be poured upon it with any suitable vessel, and care should be taken to stir the lime so as to bring the water into contact with every portion, when it may be left until all the vapor has passed off The sand may now be incorporated with the lime by means of a hoe or shovel; and, if necessary, a little water may be added to produce a homogeneous, consistent paste, when it is ready for use. Sand from the sea-shore should never be employed for making mortar without being first washed with fresh water, because the salt left in such sand is liable to absorb moisture and prevent the mortar becoming hard. In putting up walls of brick or stone, care should be taken that the stones or bricks be moistened before they come in contact with the mortar. Every brick and stone should be laid in a good bed of mortar, and should receive a blow to fix it firmly. The bricks should not be laid merely, as is the common custom, but forced down so as to press the mortar into all the pores and crevices. The superintendent of a building should give his personal attention to the vertical joints in the walls, as the masons frequently neglect to fill them up with mortar.—*Scientific American.*

The Atlantic Telegraph.

Intelligence may be expected at any moment from the British steamer which was dispatched from St. John some months ago to take a new line of soundings along the coast of Newfoundland, and half way across the ocean, where she was to meet another British steamer (the Porcupine) which had been assigned to a similar duty along the Irish coast and the other half of the Great Atlantic Cable route. The Admiralty having ordered each steamer to re-

turn to her starting point, the results of the exploration of the western half will be first reported from St. John. The object of the new survey is to find the best places for the shore cable, and to ascertain, if possible, a still better range of soundings for the main line than the one determined on at the first survey.

The Porcupine, we learn, has already returned to Plymouth, and the Liverpool *Mercury* gives the following as the result of its labors:

"Some of the soundings extended to a depth of 2,500 fathoms. The visit of the steamer to Rockall, on the 14th of August, seems to have been prompted by a desire on the part of the Lords of the Admiralty to be able to judge, by a knowledge of its depth and character, of the expediency of dropping a cable across this bank, for the purpose of connecting Ireland with Iceland and America. On the ridge of the banks, soundings varied from 90 to 160 fathoms; fish were most abundant; the bottom consisted of mud and sand. The diagrams, returns, and reports from the officers engaged on board the Porcupine have been sent to Whitehall for the consideration in the first place of the Lords of the Admiralty, after which communication will be made by their lordships to the directors of the Atlantic Telegraph Company."—*Merchant's Magazine.*

New Telegraph Lines.

Russia.—Accounts from St. Petersburg state that at the end of August there were in Russia 33,104 versts of electric telegraph (24,000 miles.) The number of stations was 150. An additional length of 10,335 versts is in course of being established.

New York and London.—In July last communication by electric telegraph could be made between London and Tumen, in Siberia, 4,039 miles distance. It is expected that the wires will be extended to Nikolaivski, on the Pacific, by the end of this year, and that there will be telegraphic communication with New York, *via* Siberia and California, by the end of 1863.

Switzerland and Bavaria.—The cable intended to establish a direct telegraphic communication between Bavaria and Switzerland, was submerged on the 4th inst. The total length is 70,000 feet, and its weight 280 quintals. According to the soundings which have been made, the greatest depth of the Lake of Constance, where the cable will be placed, is 300 feet.

Pins were worth a dollar a paper in 1812, and were poor at that. Then it took 14 processes to make a pin: now only one, by a machine which finishes and sticks them into the paper. Saving pins half a century ago was as important as saving cents, and hence the habit thus formed sticks to many elderly gentlemen whose coatsleeves are ornamented with rows of them, rescued from loss.

SCIENCE, ART, STATISTICS.

Iron experiment.—A simple illustration will serve to show two facts connected with iron; the first is elasticity, and the second the power exerted by pressure of the hand of any person. Make a hoop of one-inch square iron about the size of a man's hat, let the inside of the hoop be made quite smooth and true. Such a hoop being examined, it would appear that the power even of a horse could in no way alter its shape or form, provided the strain be put to it fairly and equably. Now make a rod of iron of the thickness of a lead pencil, that shall exactly fit the diameter of the inside of the hoop, so that when placed in the hoop, it will not fall out unless the hoop be altered in shape. If, acting in a similar way, we took a child's wooden hoop with a stick across it in the center, and then pressed it at the sides opposite to that of the cross stick, the hoop would assume an oval shape, and, of course, the cross stick would fall out. Just so does the iron hoop described act; when any one presses it, the iron rod falls out, showing clearly the elasticity of the iron. The hoop will become oval shaped with a very little pressure, not greater than that which can be exerted by a young girl.—*Septimus Piesse.*

How to Tan Skins.—1. Take two parts of saltpetre and one of alum; pulverize finely, mix them and sprinkle evenly over the flesh side of the skin; then roll the skin tightly together. and let it remain a few days, according to the weather, then scrape the skin till it is soft and pliable. I have tanned skins in this way so that they would be as soft and white as buckskins.

2. "A reader" wishes to know the mode of tanning coon and fox skins with the fur on. I will give him my mode of operation. If the skin is green from the body, scrape all the flesh from it, then pulverize equal parts of saltpetre and alum and cover the flesh part of the skin with it; put the flesh in such a manner as to hold the brine when dissolved, then lay it away in a cool place—say the cellar—and let it lay four or six days; then cover the flesh part with soft soap and wash off clean with water. Dry in the shade, roll and pull occasionally while drying; then roll and pull until soft and pliable.—*N. E. Farmer.*

☞ Mr. Van Buren was the last of the old succession of Presidents, nearly all of whom attained to an unusually ripe age. If we except Washington, who died at the age of 67, all those intermediate reached to within a year or two of four score; while John Adams attained to the age of 91; Jefferson to 83, and John Quincy Adams to 81. During the last 30 years, our Presidents have died considerably younger. Mr. Polk was but 54, Gen. Harrison, 63; Gen. Taylor, 54; and Mr. Tyler 71 years old at the close of their respective lives.

THE WHITE MOUNTAINS.—The different peaks of the White Mountains are, by actual measurement, found to reach the following heights:

Names.	Height in feet.
Mount Washington,	6,288
Mount Adams,	5,794
Mount Jefferson,	5,714
Mount Madison,	5,365
Mount Monroe,	5,384
Mount Clay,	5,553
Mount Franklin,	4,904
Mount Clinton,	4,320
Mount Pleasant,	4,764
Gap between Washington and Clay,	5,417
Gap between Washington and Monroe,	5,100
Gap between Adams and Clay,	4,979
Gap between Adams and Jefferson,	4,939
Gap between Jefferson and Madison,	4,912
Limit of trees on Washington, north side,	4,150

GAS WORKS ON THE AMERICAN CONTINENT.—The *American Gas Light Journal*, edited by Prof. C. Elton Buck, presents in its first January number interesting tables of gas works on this continent, from which it appears there are

420 American gas works,	representing	$51,620,940
23 British colonial gas works,	"	2,112,040
22 Cuban and S. American,	"	6,350,000
465 gas works.	Total capital,	$60,022,980

Showing a grand total of sixty million twenty-two thousand nine hundred and eighty dollars, being an increase in this country since the date of the last tables, July 16, 1860, of thirty-nine gas work, and of capital, three million six hundred and forty-nine thousand seven hundred and twenty-five dollars.

NAVAL INVENTION.—An invention is claimed to have been made by a person near Rochelle, France, who, it is said, has been engaged ten years in perfecting it. He claims that, by an application of electric power, he can concentrate at the moment of discharge all the guns on the side of a vessel upon any given point on the enemy's vessel or fortifications, and that no iron plates, however thick, could resist the terrible effects of such a converging fire. The Emperor has sent the inventor a flattering letter, and conferred upon him the decoration of the Legion of Honor.

SLAVES IN THE SOUTH.—Should the rebellion continue in its present shape until the 1st of January next, the number of slaves which will on that day be emancipated, under the proclamation of the President, will be

Alabama,	435,132
Arkansas,	111,104
Florida,	61,753
Georgia,	462,232
Louisiana,	333,010
Mississippi,	436,696
North Carolina,	331,081
South Carolina,	402,541
Tennessee,	275,784
Texas,	180,682
Eastern Virginia,	375,000
Total, according to census of 1860,	3,405,015

EDUCATIONAL.

The Agricultural College.

Thanks to the late liberal Congress and to the wisdom of a President capable of appreciating the wants of the industry of the country, we are able thus soon again, after the disappointment consequent upon the veto of the original Morrill bill by Mr. Buchanan, to resume the discussion of Agricultural Colleges with a prospect of securing positive results.

We take it for granted that every intelligent farmer is prepared to admit that the Natural Sciences are applicable for the improvement of the agricultural art. We shall not, therefore discuss that question.

A grant of 240,000 acres of land has been made to the State of Wisconsin for the establishment of an Agricultural College, and it will not avail us to show that the act making the grant was not as wisely framed as it ought to have been—that the Western States are not equal sharers in the bounty of the Government with the older and more populous States. The point to be settled is: How shall the grant be so received and disposed of as to secure the largest benefit to the industry of the State?

The amount of land received, though well sold and the proceeds carefully husbanded, will not be sufficient for the great work of establishing a school of the highest grade, unless the State shall also contribute something towards the enterprise. It is highly important, therefore, that the next Legislature take steps immediately for fulfilling the conditions of the grant.

The first step is the formal reception of the grant. Of the propriety of this, there will, of course, be no question, as the State will thereby acquire the source of a fund which cannot fail to contribute largely to the improvement of our industry, and the consequent increase of the wealth, intelligence, and social happiness of the people.

The importance of early acceptance will be apparent when it is remembered that the College must have been actually established with-

in five years from date of the passage of the act, and that no portion of the endowment may be used for the erection of the buildings. Indeed not more than ten per cent. of the proceeds of the sale of lands may be used for the purchase of the Experimental Farm. But it so happens that, in our case—and in this respect the older States have the advantage—the "scrip" will not be issued, allowing the purchaser to locate in any of the Territories, but *our own lands* must be sold, whether valuable, and readily marketable or not. They should, therefore, be accepted, and put into market at the earliest possible moment.

But, if we do the best we can, it is questionable whether a sufficient amount could be realized in time to purchase the Farm, erect the buildings thereon, and get the College into *actual operation* within the next four years.

We accordingly suggest that the site for the College and the Experimental Farm should be contributed by the locality where the institution may be established. Or, in other words, that the College be offered to that county or town which will make the most advantageous offer of a site and land for the Farm. And secondly, that the buildings be provided for by the State at large.

This would leave the entire grant to be converted into an endowment fund, and thus the better insure the upbuilding of such an institution as would be an honor and great advantage to the State.

We have our eye on sundry desirable localities which, in doing themselves the honor of donating the requisite lands, would at the same time so far enhance the value of surrounding property as to become pecuniary gainers by their liberality. The site for the College, and the land for the farm once secured, we are prepared to guarantee that the funds for the buildings shall be forthcoming.

Farmers, and friends of Industrial Education, turn this matter over in your minds, and so be prepared to act with promptness and energy when the time comes for worthy and generous deeds.

Education of the Farmer.

The following extract is from Mr. Greeley's late address before the Vermont State Agricultural Society:

No man can afford to bring up his children in ignorance of the principles and facts which underlie successful farming. I do not know that this truth is yet accepted by the great body of your farmers; if not, I must try to make it so. I hear complaints that our cleverer farmers' sons dislike their fathers' vocation, and I am not surprised that it is so. The father has unconsciously *taught* them to despise it as the least intellectual and most stolid of all possible pursuits. He never brought home a book that treats attractively, wisely, enthusiastically of Agriculture. He has, as a general rule, never considered an Agricultural journal worth taking. He has not deemed it important that they should be instructed in the natural sciences which underlie and elucidate his own vocation. He never made the latest improvements and discoveries in aid of agriculture the subject of inquiry, of study, and of fire-side discussion. In his daily life and thought, farming is as dreary and mindless a drudgery as it can be to a horse in a bark-mill, How, then, can he expect his sons, if they have any aspirations beyond hog and hominy, to like farming? He has given them every possible negative reason to detest it.

Now I do not hold that every man, or even every farmer's son, should be a farmer. There are other pursuits equally important, laudable, honorable. But I *do* contend that every farmer should so instruct and train his children, that they shall at least respect his vocation, though they should not follow it, and understand its laws and processes so thoroughly that they will never forget them. I would have every farmer's son feel that, if defeated in his chosen pursuit—law, medicine, trade, mechanics, or whatever it may be—he can, at any moment, return to the vocation of his youth, and earn therein an honorable and adequate subsistence. He is morally certain to prove more upright and independent in whatever pursuit, if he enters it with this well grounded confidence in his ability to live without it.—But I still more urgently insist that each farmer shall so honor and esteem his own vocation, shall so render it and respect it as an intellectual and liberal pursuit, that his better educated and mentally developed sons shall not despise and reject it as fit only for oxen."

☞ In our reference to the Madison Normal and High School, in the Oct. No., we greatly understated the success of Prof. Allen. Instead of "75 or 80," he has 150 pupils in the several departments.

Pleasant School Houses.

It is not always in the power of a people just establishing themselves in a new country, with every thing to be newly done, and but little capital to do it with, to make the School-House what it ought to be—a model of taste and neatness. But there is nothing like having a true ideal to work up to as fast as we can; and it is on this account that we have so often called the attention of our readers to this subject.

Pleasant as were the days of our childhood, we remember the old log school house where the work of study was commenced, with a kind of grudge against the clever but ignorant and prejudiced old fellows who resisted every attempt of the better informed men of the district to supersede the old hut with a respectable and inviting little structure. The old house stood on the brink of a hill without inclosure or shelter. Its floor was of loose, clattering boards; the windows high and prison-like; the seats, slabs of logs, warped, rickety, and so high that our feet dangled most painfully in mid air; the desks, rough boards supported upon long pins driven into the wall. True, we lived through that period of penance, and made progress in our studies, but it was only because we were ambitious and determined that nothing should hinder us; and, but for a pleasant grove a quarter of a mile distant, to which

"We loved to steal awhile away,"

and where, by permission of a kind teacher, we spent the most of our time on pleasant summer days, the memory of the old school house, which ought to have been made dear forever, would be perfectly hateful.

Had it been our good fortune to have had a neat little school house, like the above, to learn our primary lessons in, how much more rapid would have been our progress—how different the memories which would have illumined those early days of familiar childhood.

Parents, remember that the hearts of your children are affected and their character moulded by all the circumstances that surround them at this most important period of their lives.—Learn to treat them less like young colts and calves, destined merely for drudgery or the shambles, and more like wonderfully endowed, immortal beings, whose great future is to be determined by the shaping of the present. If you are about to locate a school house for your district, give it the pleasantest locality that can be found. If your house is already built, and its surroundings are not what they should be, set about the work of making them so by every improvement within your power. The

late autumn is a good time for setting out young shade trees. Enlist the boys of the district in the work and it will be done. One word more. In planting out trees, don't set them in stiff, ugly rows, but here and there, singly and in clumps, so that they shall seem to have been planted by nature.

THE HOME.

The Welcome Back.

Sweet is the hour that brings us home,
  Where all will spring to meet us;
Where hands are striving, as we come,
  To be the first to greet us.
When the world hath spent its frowns and wrath,
  And care has been sorely pressing,
'Tis sweet to turn from our roving path,
  And find a fire-side blessing.
Oh, joyfully dear is the homeward track,
  If we are but sure of a welcome back.

What do we reck, on a dreary way,
  Though lonely and benighted,
If we know there are lips to chide our stay,
  And eyes that will beam love-lighted?
What is the worth of your diamond ray,
  To the glance that flashes pleasure;
When the words that welcome back betray
  We form a heart's chief treasure?
Oh, joyfully dear is our homeward track,
  If we are but sure of a welcome back.

Politeness Necessary among Intimate Friends.

The common fallacy is, that intimacy dispenses with the necessity of politeness. The truth is just the opposite of this. The more points of contract there are, the more danger of friction there is, and the more carefully should people guard against it. If you see a man only once a month, it is not of so vital importance that you do not trench on his rights, tastes, or whims. He can bear to be crossed or annoyed occasionally. If he does not have a high regard for you, it is comparatively unimportant, because your paths are generally so diverse. But you and the man with whom you dine every day have it in your power to make each other exceedingly uncomfortable. A very little dropping will wear away a rock, if it only keep at it. The thing that you would think of, if it occurred only twice a year, becomes an intolerable burden when it happens twice a day. This is where husbands and wives run aground. They take too much for granted. If they would but see that they have something to gain, something to save, as well as something to enjoy, it would be better for them; but they proceed on the assumption that their love is an inexhaustible tank, and not a fountain depending for its supply on the stream that trickles into it. So, for every little annoying habit, or weakness, or fault, they draw on the tank without being careful to keep the supply open, till they awake one morning to find the pump dry, and instead of love, at best, nothing but a cold habit of complacence. On the contrary, the more intimate friends become, whether married or unmarried, the more scrupulously should they strive to repress in themselves everything annoying, and to cherish both in themselves and each other everything pleasing. While each should draw on his love to neutralise the faults of his friend, it is suicidal to draw on his friend's love to neutralize his own faults. Love should be cumulative, since it cannot be stationary. If it does not increase, it decreases. Love, like confidence, is a plant of slow growth, and of most exotic fragility. It must be constantly and tenderly cherished. Every noxious and foreign element must be carefully removed from it. All sunshine, and sweet airs, and morning dews, and evening showers must breathe upon it perpetual fragrance, or it dies into a hideous and repulsive deformity, fit only to be cast out and trodden under foot of men, while, properly cultivated, it is a Tree of Lfe.—*Atlantic Monthly.*

Punishment to Children.

In a late number of the *Atlantic Monthly*, the "Country Parson" has a charming little essay on "Sorrows of Childhood." In the course of which he makes these remarks:

An extremely wicked way of punishing children is by shutting them up in a dark place. Darkness is naturally fearful to human beings, and the stupid ghost stories of many nurses make it especially fearful to a child. It is a stupid and wicked thing to send a child on an errand in a dark night. I do not remember passing through a greater trial in my youth than once walking three miles alone (it was not going on an errand) in the dark, along a road thickly shaded with trees. I was a little fellow; but I got over the distance in half an hour. Part of the way was along a wall of a churchyard—one of those ghastly, weedy, neglected, accursed-looking spots where stupidity

has done what it can to add circumstances of disgust and horror to the Christian's long sleep. Nobody ever supposed that this was a trial to a boy of twelve years old, so little are the thoughts of children understood. And children are reticent; I am telling now about that dismal walk for the first time, and in the illness of childhood children sometimes get very close and real views of death. I remember, when I was nine years old, how every evening when I lay down to sleep, I used for about a year to picture myself lying dead, till I felt as though the coffin was closing round me. I used to read at that period, with a curious fascination, Blair's poem, 'The Grave.' But I never dreamed of telling anybdoy about these thoughts. I believe that thoughtful children keep most of their thoughts to themselves, and in respect of the things of which they think most are as profoundly alone as the Ancient Mariner in the Pacific. I have heard of a parent, an important member of a very straight sect of the Pharisees, whose child, when dying, begged not to be buried in a certain foul old hideous churchyard, but in a certain cheerful cemetery. This request the poor little dying creature made with all the energy of terror and despair. But the straight Pharisee refused the dying request, and pointed out with polemical bitterness to the child that he must be very wicked indeed to care at such a time where he was to be buried, or what might be done with his body after death. How I should enjoy the spectacle of that unnatural, heartless, stupid wretch tarred and feathered! The dying child was caring for a thing about which Shakspeare cared; and it was not in mere human weakness, but 'by faith,' that Joseph, when he was dying gave commandment concerning his bones.

The Babie.

Nae shoe to hide her tiny tae,
  Nae stockings on her feet,
Her suple ankles white as snaw,
  Or early blossoms sweet.

Her simple dress of sprinkled pink,
  Her double dimpled chin,
Her puckered lip and baumy nose,
  With nae one tooth between.

Her een, sae like her mother's een,
  Twa gentle liquid things;
Her face is like an angel's face—
  We're glad she had na wings.

She is the budding of our love,
  A giftie God ha' gie'n us;
We munna love the gift ow'r weel,
  'Twad be nae blessing to us.

Self Sacrifices.—There is not one of us who has not a brother or a sister, a friend or a schoolmate, whom we can make better as well as happier. Every day calls upon us for sacrifices of small selfishness, for forbearance under provocation, and for the sujugation of evil propensities. Drop the stone you were about to throw in retaliation for insult; unclench that fist with which you were about to redress some supposed, perhaps some real wrong; silence that tongue, about to utter words which would poison like the venom of asps; expel that wicked imagination, that comes into your thoughts as Satan came into the Garden of Eden; for if you do not drive that out of your paradise, it will drive you out.—*Horace Mann.*

YOUTH'S CORNER.

The Wasp and the Bee.

A wasp met a bee that was just buzzing by,
And he said: "Little Cousin, can you tell me why
You are loved so much better by people than I?

"My back shines as bright and as yellow as gold,
And my shape is most elegant, too, to behold;
Yet nobody likes me for that, I am told."

"Ah, cousin," the bee said, "'tis all very true;
But if I had half as much mischief to do,
Indeed they would love me no better than you.

"You have a fine shape, and a delicate wing;
They own you are handsome, but then there is one thing
They cannot put up with, and that is your sting.

"My coat is quite homely and plain, as you see,
Yet nobody ever is angry with me,
Because I'm a humble and innocent bee."

From this little story, let people beware:
Because, like the wasp, if ill-natured they are,
They will never be loved, if they're ever so fair.
—*Jane Taylor.*

All About my Friends.—No. 3.

Early in May, there came a pair of bluebirds and made a nest in a bird-house which was in a wild cherry tree that stands very near the front gate. Every day they sang their sweet little songs, which was ample payment for their house rent; but they did more, they daily destroyed a great many worms and insects.

They would perch themselves on the fence, the well, or the low branch of a tree, and whenever they espied anything such as they use for food, they would dart down and pick it up, and then go back to their station, to watch for more.

About the same time, a pair of Brown Thrushes came. Just across the road from the house is a wild crab apple tree, and a woodbine has run up on the tree and made a complete bower at the top; and there the thrushes made their nest.

The nest was composed of roots, sticks, and the stubble of grass, with never a bit of moss, or wool, or feathers for a lining.

The male bird came, every morning, and took his station on the very tiptop of the hick-

ory tree that stands in the yard, and trilled his roundelays of etherial notes, imitating nearly every other song bird.

When cherries and currants were ripe, he took his pay for his musical entertainment.

I believe that this bird is the Ground Thrush. It is sometimes called the Mocking Bird. It usually makes its rest on the ground, by the side of a bush, a stump, or a large stone. Its eggs are speckled. UNCLE WILLIAM.

Some Things about the Sea.

In the last number of the FARMER we intimated to our young friends, that we might have many things to tell them in the future about what we saw in our voyage upon the ocean and our journey in foreign lands. Very well, we mean to keep our promise, and will begin by telling you some things about the Sea.

Some of you have seen the great Atlantic, and have heard the roar of his mighty waters. Possibly a few have crossed in a ship from shore to shore, and with your own wondering eyes seen some of the strange sights—such as icebergs, whales, sharks, and other monsters of the deep, and even fierce storms—of which we are going to tell you. But even if you have, perhaps we may tell you something you had not learned before.

WHAT AN OCEAN IS.

An ocean is often called "the sea," but a sea is never called an ocean. A *real sea* is a large body of salt water nearly shut in by land. Take your atlas and see the difference. Thus you will find the Mediterranean, the Black, the Baltic, the Caspian, and many other *seas*—all less than any of the great oceans in size, and quite nearly surrounded by land. "But why," you ask, "do you, then, sometimes call the ocean the *sea?*" Just because a sea is *almost* an ocean, and the word *sea* has a more pleasant and poetic sound to the ear and mind; nothing else.

"What, then, is the *ocean?*" That great body of salt water which surrounds the continents—such as America, Europe, Asia, and Africa—and which covers more than three-fifths of the whole surface of the great globe. That is the ocean. Isn't it grand—this almost boundless "waste of waters?"

WHAT THE OCEAN IS MADE OF.

"What the ocean is *made* of? Why, *water*, of course!" I hear some little boy say. Not *all* water, my boy; one part in thirty parts is *salts*—chiefly common salt. That is, in every thirty pounds of the water there is one pound of salt. Or, in other words, every bucket-full (ordinary wooden bucket, holding three gallons) of sea water contains a little over one pound of salt. You see, then, a good reason why the ocean is called the "*briny* deep."—There are, also, many other kinds of salt, besides common salt, in the sea, but they are in very small quantity, and have long, hard names, and so our little readers must wait until they study chemistry, when they will learn all about them.

DEPTH OF THE OCEAN AND ITS BOTTOM.

Because there are strong currents in the sea it is difficult to find out just how deep the water is, in many places, and at great depths.—It is very well known, however, that the bottom is uneven, just like the land, with its mountains and valleys and plains; and hence, in some places, the water is very much deeper than in others. Scientific men have measured, or *sounded* the depth a great many times in a great many places, and estimated the average depth at two miles. That is, if the bottom were perfectly level like the floor of a room, then the depth of the ocean wherever its waters cover the globe, would be two miles.—Think of it! Isn't it wonderful? Let's see, now, how much all this water of the whole ocean would weigh. By a calculation, which your parents or teachers will tell you how to make, we find that a single cubic or solid mile of water would weigh forty-etght billions, one hundred and eighty-one millions, one hundred and eighty-six thousand, one hundred and eighty-four tons. But the water of the entire ocean is sufficient in quantity to make four hundred millions of such cubic or solid miles. So that to ascertain the weight of the whole ocean in tons, we must multiply these two vast numbers together. Expressed in figures the

amount would stand thus: 19,272,474,753,-600.000,000 tons!!—a number so vast that the mind of no one can comprehend it. To give you a better idea, we will suppose a train of cars, water tight, to be loaded with the water of the ocean—each car carrying four tons, and being twenty feet long. How long would the train be? Why, it would reach entirely around the world seven hundred and thirty billion, seventeen million, nine hundred and eighty-three thousand, and ninety times!! But the numbers are still too vast for your comprehension. And so we will suppose this enormous train of cars to *move*, and at the rate of a mile in a minute. How long would a man have to stand in his place, day and night, in order to see the last car pass? Over a billion of years! or more than five hundred millions of life-times of sixty years!!

If a train were loaded with the salt of the water alone, it would be over fifteen millions of life-times in passing!

Of the color and the currents of the sea in the next number.

WAR MISCELLANY.

The Soldier's Grave.

BY GEO. W. BUNGAY.

I.

"Touch him tenderly," gently raise
The fallen hero; let his praise
Sound sweetly through all future days,
For he was brave and true.
Lean him against a manly breast,
Close to the heart that loves him best,
Like a tried traveler taking rest
Under the arch of blue.

II.

Then bear him to the sylvan shade,
Where dew falls from the drooping blade,
Like tears from a sad-hearted maid
Whose grief no words unfold;
Where the soft wind in sorrow sighs,
Among the flowers whose pleasant eyes,
Repeat the beauty of the skies,
Starlight and blue and gold.

III.

Brush from his brow the wind-tossed hair,
Mingled like cloud and sunshine there,
Kiss the cold cheek so pale and fair,
In silent sorrow weep.
Fold his white hands upon his breast,
And when the day fades in the West
Under the green turf let him rest,
There let him sweetly sleep.

IV.

Dig his grave where the soft green sod
By traitor's feet has ne'er been trod,
Where sweet flowers are the smile of God,
For the patriot pure and true.
There let a graceful fadeless tree,
Emblem of hope and liberty,
Arise, his epitaph shall be
Sweet flowers, red, white and blue.

V.

Bury him where the brook shall sing
His requiem, and returnig spring
Shall come with bloom and rustling wing
To deck his grave for aye,
And Heaven shall watch with starry eyes,
That sleep not in the stooping skies,
The tomb to which an angel flies
To roll the stone away.

Large Armies of Ancient Times.

The following facts, culled from the fields of ancient story, may be of some interest at the present time:

The city of Thebes had a hundred gates, and could send out of each gate 10,000 fighting men and 200 chariots—in all, 1,000,000 men and 2,000 chariots.

The army of Trerah, King of Ethiopia, consisted of 1,000,000 men and 300 chariots of war.

Sesostris, King of Egypt, led against his enemies 600,000 men, 24,000 cavalry, and 27 scythe armed chariots, 1491 B. C.

Hamilcar went from Carthage and landed near Halermo. He had a fleet of 2,000 ships and 3,000 small vessels, and a land force of 300,000 men. At ihe battle in which he was defeated 150,000 were slain.

A Roman fleet led by Regulus against Carthage consisted of 330 vessels with 140,000 men. The Carthagenian fleet numbered 350 vessels with 150,000 men.

At the battle of Cannae, there, were of the Romans, including allies, 80,000 foot and 6,000 horse; of the Carthagenians 40,000 foot, and 10,000 horse. Of these 70,000 were slain in all, and 10,000 taken prisoners—more than half slain.

Hannibal, during his campaign in Italy and Spain, plundered 400 towns, and destroyed 300,000 men.

Ninus, the Assyrian King, about 2,200 years B. C., led against the Bactrians his army, consisting of 1,700,000 foot, 200,000 horse, and 16,000 chariots armed with scythes.

Italy, a little before Hannibal's time, was able to send into the field nearly 1,000,000 men.

Semiramis employed 2,000,000 men in building the mighty Babylon. She took 100,000 Indians prisoners at the Indus, and sank 1,000 boats.

Sennacherib lost, in a single night, 185,000 by the destroying angel. 2 Kings, xix, 35–37.

A short time after the taking of Babylon the forces of Cyrus consisted of 600,000 foot, 120,-000 horse, and 2,000 chariots armed with scythes.

An army of Cambyses, 50,000 strong, was buried up in the desert sands of Africa by a south wind.

When Xerxes arrived at Thermopylae, his

land and sea forces amounted to 2,641,610, exclusive of servants, eunuchs, women, sutlers, &c., in all numbering 5,283,220. So say Herodotus, Plutarch and Isocrates.

The army of Tamerlane is said to have amounted to 1,600,000, and that of his antagonists, Bajazet, to 1,400,000.

The army of Artaxerxes, before the battle of Cunaxa, amounted to 1,200,000.

When Jerusalem was taken by Titus, 1,100,000 perished in various ways.

The forces of Darius, at Arbela, numbered more than 1,000,000. The Persians lost 90,000 men in this battle, Alexander about 500. So says Diodorus. Arian says the Persians in this battle lost 300,000, the Greeks 1,200.

Ten thousand horse and 100,000 foot fell on the fatal field of Issus.

The above items are from notes taken during my ordinary reading, and set down without any reference to chronology. By this it will be seen that 200,000 is the largest number of horsemen in any of these armies; that the largest number slain (except account in II Kings) was 150,000; or, if we credit Arian, 300,000; that the largest number of prisoners taken was 100,000. I hope that any one who may see this will add other instances of large numbers mustered for war in olden times.

Firing the Mortars.—The operation of firing the mortars is interesting. The shell weighs 230 pounds, and is 13 inched in diameter. For a family illustration, it is about the size of a large soup plate. The boat is alongside the shore, so as to withstand the shock firmly, and the men go ashore when the mortar is to be fired. A pull of the string does the work, and the whole vicinity is shaken with the concussion. The report is deafening and the most enthusiastic person gets enough with one or two discharges. There is no sound from the shell at this point of observation, and no indication to mark the course it is taking, but in a few seconds, an attentive observer with a good glass will see the cloud of smoke that follows its explosion, and then the report comes back with a dull boom. If it has done the execution, the enemy may be seen carrying off their killed and wounded.

A Romantic Story.—A few days since, a young man named Smith died at Woloottville, Conn., from wounds contracted at the battle of Newberne. He was in three battles, and was wounded at Newberne by a shot through the arm, which, from want of attention, caused his death. In the battle at Newberne he was providentially saved by a woman who accompanied her husband into the army. Finding her husband was determined to go, she said: "I go with you to take care of you and help you fight the battles." She dressed herself in the true Bloomer costume, and with Minie rifle in hand she went into the fight, and was in three battles—the lsst at Newberne. When finding her husband missing, she went in pursuit, and in her travels found young Smith lying in low ground, apparently dead, but on turning him over found that he had life. She gave him some cordials, he revived, and she sent for an ambulance and carried him to the hospital, where, if he had remained longer, he would probably have lived.

Liquid Fire.

Some experiments were recently tried at the Washington Navy Yard with an apparatus for the ejection of liquid fire, which to all intents and purposes, is the famed Greek fire revived, the secret of which has been lost. The chemical composition of this fire may not be the same, but its eeffcts are as terrible as those attributed to the inextinguishable fire of the Greeks. The composition and the apparatus for ejecting it are the inventions of Prof. B. F. Greenough, of Boston, who, though for many years nearly blind, has parsued his chemical investigations with unabated zeal, until he has produced what promises to be a terrible auxilliary in warfare.

The experiments were made under the direction of a Board, consisting of Capt. G. V. Fox, Assistant Secretary of the Navy, Capt. Dahlgren, Capt. Wainwright, and Lieut. Dadger. A target was erected upon a platform fifty feet long by thirty wide, the target being made of solid oak timber three feet in thickness.—The fluid was ejected, in an inert state, from a pipe three-sixteenths of an inch in diameter, ard was thrown some thirty to fifty yards before it reached the target. At a distance of several feet from the muzzle the fluid ignited, expanding to a diameter of two feet, with an immense combustion, which covered the target and platform with liquid fire. The fire was apparently inextinguishable, burning rapidly on the water and consuming the target. It emitted fumes of smoke which darkened the atmosphere, and would have suffocated any human being being who had come within its influence. The experiment was quite successful.

We understand that experiments have also been made with shells filled with this liquid, and with great success. The composition, the secret of which is known only to the inventor, promises to be a very effective auxilliary of war.

"Father's Chimney."—A few days since a number of prisoners of war, who had been released on porole, passed over the P. S. & P. Railroad, (Maine,) on their way to their homes. Among the number was a blue-eyed, pale-faced boy, not more than seventeen, whose shoulders seemed scarcely equal to carry a forty pound knapsack. For some time he had been looking intently out of the car window, and suddenly,

when the train was approaching Biddleford, he jumped up, and with face all aglow and eyes sparkling with delight, exclaimed: "Boys, there's my father's chimney." As if by a simultaneous inspiration, the soldiers all arose and sang "Sweet Home" with the effect that is sometimes produced by these simple notes and simple lines. More than one bearded man looked out of the window as an excuse to conceal his tears.

LAND MONITORS.—The following proposals are made by A. E. Redstone, of Indianapolis:

I propose to build for government nine "Land Monitors," or "Engines of War," to cost $900 a piece, to weigh 1,800 pounds each, 25-horse engine and all, with coal, water, amunition, knives, etc., included in the above weight; each to be handled by two men; to discharge from each 10,000 shots in half an hour; to be capable of running twenty miles an hour over any grades less than forty-five degrees; to be perfectly manageable in turning, climbing, or descending; to clear more obstructions from artillery roads than 500 men; to reap the rebels clean by divisions; to resist canister, grape and all small shot; to engineer the advance car myself; to risk all the government can risk —my life—each man in the nation can only do this.

TAXATION CAREFULLY CONSIDERED.—If we assume that at the opening of 1863 our national debt will be eight hundred millions of dollars, it will even then be less than one-fifth of that of Great Britain, one-half that of France, the same of Austria, and even the little kingdom of Holland. Our capacity to meet it is really greater than that of all these nations together; for while they have reached the limits of their expansion and resources, we are only at the commencement of the development of ours. There is nothing, therefore, to discourage us in the expectation of a happy "issue out of all our troubles." We may look cheerfully at the taxation which we are about to encounter, and adopt the philosophy of an Irish member of the House of Commons, who said that the "true way of avoiding danger was to meet it plump."—*N. Y. Evening Post.*

A GOOD RETORT.—The Toledo *Commercial* gives the following good retort:—"The other day, as a number of rebel prisoners were being shipped at Sandusky for the traitor's home on Johnson's Island, a little German made himself quite prominent with his noisy remarks about the Secesh. One of them, a brawny six footer, turned savagely upon him and said, "We eat Dutchmen down South." "Vy den you no eat Sigel?" was the instant retort.—Secesh had no reply to give, but passed sadly on.

NEWS SUMMARY.

DOINGS OF AGRICULTURAL SOCIETIES.

State and Provincial Fairs have been held in Connecticut, Vermont, New, York, New Jersey, Ohio, Indiana, Michigan and Iowa, and in Upper Canada; possibly in some other states.

The Connecticut Show is reported by the correspondent of the New York *Tribune*, as good as a failure, in most respects.

The New York Fair was, of course, a success. The farmers of the Empire State know well how to make their annual exhibitions worthy of the great object for which they were first instituted, and they rarely, if ever, fail. The evenings of Fair week were deveted to interesting and profitable discussions. We are glad to observe that our esteemed friend Col. Johnson, Perpetual Secretary, had returned from London in time to favor the Society and people with the inspiration of his presence.

The Ohio Fair was held at Cleveland. Attendance large, and receipts more than adequate to meet expenses. Exhibition itself reported hardly equal to that of the best years.

Indiana Exhibition of pretty much the same character as to general results.

Of the Michigan Fair we have quite favorable aeports in the *Michigan Farmer.*

The Iowa Fair, at Dubuque, was ———

On the Lakes, our Provincial neighbors appear to have done remarkably well. But they have no stupendous rebellion on their hands, and other things being equal, ought to have excelled. The Canadian *Agriculturalist* for October rejoices in these terms: "The Seventeenth Annual Shew of the Agricultural Association of Upper Canada was held in the city of Toronto, Sept. 23d–26th. The weather throughout being delightfully fine, and the capacious grounds affording ample space for the large amount of Live stock, implements, &c., together with the immense crowds of visitors, the recent Exhibition may be pronounced not only a decided success, but upon the whole, superior to any former occasion."

County Fairs in Wisconsin have succeeded better, in the main, than was anticipated by a majority of those most interested. The weather was unfavorable in a number of instances, but the spirit and energy of managers seem, in most cases, to have overcome this embarassment. Among these not hitherto mentioned, of which we have seen favorable accounts, we have pleasure in mentioning Green Lake, Iowa, Monroe, Outagamie, Calumet, and Kenosha.

The Green Lake Co. Fair was held at Berlin, and is reported "a decided success." One of the city papers says: "Financially it was as successful as was expected, had the weather opened fine; the receipts being about double, we believe, that of any previous year. As a show, it was better than the average, and a thousand per cent. better than could have been expected, since the first day was almost wholly devoted to the rain." So much for a wide awake people, and zealous, thorough-going officers, of whom Secretary Powers appears to be a worthy representative.

Of the Iowa County Fair the *Chronicle* says: "On the whole the fair was quite as good as could have been expected, after taking into consideration the unfavorable circumstances under which it was held. The attendance, on the last day, showed that there is still an interest felt by the people, that under more favorable auspices, will insure complete success."

The Calumet Co. Fair, held at Gravesville, "owing to the inclemency of the weather, came near being a failure,"—so says the *Times*, which recommends that every other year, the Fair be held in the western part of the county.

Several other counties have held Fairs, but we have not been fortunate enough to come in possession of any information regarding their success. Would not the several Societies find it to their advantage to furnish us with a condensed statement of their Fair proceedings for publication in the FARMER in advance of their annual Reports to the State Agricultural Society?

Kenosha County Fair.—DEAR DOCTOR:—It was on my programme to attend the Kenosha County Fair this past week, inasmuch as I might serve the interests of the FARMER, and witness the manifestations of industry and enterprise, which our County Fairs serve to call forth, from the Farm and Garden, the Household and Workshop. Having occasion to pass through the western portion of the county, I learned that the chinch bug had generously relieved the farmers of the necessity of harvesting their wheat crop. The arrangement was quite satisfactory to the bugs, doubtless, but the farmers regarded them as intruders, "reaping where they had not sown, and gathering where they had not strewn." Consequently not a few intimated that the *hard times* must seriously affect the Fair. But a few of the more zealous, nothing daunted, had resolved that the Fair should come off according to announcement. Thursday morning accompanied by my friend Holt, an enterprising farmer of Pleasant Prairie, I drove to the Grounds at West Bristol Station to ascertain the probabilities of a Fair. I found that entries were going on briskly, and that, with the promptings of a glorious autumn day, the Fair must succed. Two days were alloted to the Exhibition. The first was devoted to entering, receiving and classifying the stock and articles intended for exhibition—the second, to committee work and general sight-seeing. The attendance was small on the first day, consisting mainly of exhibitors, who, with commendable zeal had resolved to contribute their mite to the success of the Fair. On the second day the attendance was large, and an air of satisfaction seemed to pervade the whole.

The Fair Grounds are new, but pleasantly located on the K. R. & R. I. R. R., 15 miles west of the city of Kenosha. This road affords ready access to the Fair, from the extreme eastern and western portions of the county.

The show, as a whole was not large. Some of the departments were well represented, however. In the Stock department, I observed some fine Devons exhibited by J. D. Benedict,

and some Red Durhams, new to me, by Dr. Paddock, Salem. There were a few French Merino, and a large and handsome exhibition of Spanish Merino Sheep. Our friend Richard Richards, of Racine, had some of the finest specimens of Spanish Merino Sheep, which it has been our good fortune to see. I observed that the show of horses was large, there being nearly 100 entries in this department.

In the department of Farm Implements, the exhibition was entirely creditable. Some handsomely finished plows were exhibited by Messrs. P. H. Wood, Kenney, and others, and seemed to attract much attention. A Mower manufactured at Kenosha, a Drill from Horicon, and other implements made up the show in this department.

The Ladies' Hall was well stocked with the handiwork of skillful fingers. It was the general opinion that this department excelled. The ladies bore their part handsomely in this exhibition.

In the Fruit, Grain and Vegetable department, the show was very creditable. We had occasion to notice some large sweet potatoes, which would have been palatable, doubtless, if baked. This county generally makes a good show of fruit; but I was informed that the exhibition in this department was inferior to former years.

To the fine quality of Capt. Gilbert's wines, those who tasted can fully testify.

In lieu of the Annual Address, several gentlemen representing the Pulpit, the Bar, and the Press, whre called up into a lumber wagon and entertained the crowd with spicy remarks.

During my visit to this part of the county, I was hospitably entertained at my friend Holt's, whom I found to be a liberal gentleman, and surrounded by a pleasant family. C.

PLEASANT PRAIRIE, Sept. 28, 1862.

STATE MATTERS.

The Crops have come in better in some localities and worse in others than was expected, as a result of the final reckoning.

Wheat, in the southeastern part of the State, and in many other parts of Wisconsin, seems to have been almost a failure. Even in Dane County, famous as furnishing the largest aggregate yield of any county in the State—if not indeed, of any county in any state—some of the farmers have scarcely recovered their seed. In other portions of the State, especially farther north, the crop has been quite fair. A farmer of Pierce County—Pierce, the *Banner* county, we mean!—reports an average yield of but little, if any, less than 20 bushels per acre.

There is very general complaint of the potato rot, and some producers of this crop are almost entirely losing the fruits of their labor.

Prices are advancing, and are now quite remunerative. The following quotation is from Milwaukee papers:

"Milwaukee, Oct. 29.—Flour, shade better; wheat, in active demand at 89½c.

"Shipments—119 bbls. flour; 44,000 bush. wheat.

"Freights—nominally 16c on wheat to Buffato."

Everything the farmer has on hand is likely to yield large returns in the future, until the close of the war.

NATIONAL AFFAIRS.

Yes, "our flag is still there!" but that is about all we can say of the war. Gen. Rosecranz has made a good fight at Iuka, Miss., and *scooped out* the enemy; Gen. Buell—now superceded by Gen. Rosecranz, thank God!—has barely succeeded in keeping Kirby Smith & Co. from eating up the whole of Kentucky; and "all is quiet on the Potomac." That is all.

For details of the battles at Iuka, and Sharpsburg, in both of which Wisconsin troops were engaged, and did nobly, we have not space in this number.

EDITORIAL MISCELLANY.

Thanks and Apologies.—On looking over a large quantity of papers accumulated during our absence, we have found a few reports of the proceedings of County Agricultural Societies, intended for publication. We regret that they should not have been published, as it is our desire to accommodate all such associations in this and every other manner possible. County Societies and Town Clubs will always find the Editor of the FARMER prompt and cordial in matters of this sort. Give us condensed statements of your operations, meetings, discussions, &c.

Can't Do It.—Communications are not unfrequently addressed "To the Editor" which should be sent to the *Publishers*. The Editor is a very clever fellow, but he s n't willing to convert his reading pages into an advertiser—not even for his best friends. Those who have *wares to sell* will please notice that there is a special department generously appropriated by the Publishers to the exclusive advantage of communications of that sort.

Occasionally when in a good deal of a hurry the Editor gets caught by these sharpers, but he never means to be. Not that he is alone anxious not to defraud the Publishers, but likewise that the dignity and high character of his Journal may be preserved.

Health of Mrs. Hoyt.—In general response to numerous enquiries as to the condition of Mrs. H., since the sad injury of last summer, we are most happy in being able to report, that she is steadily regaining her accustomed strength, and that her recovery is likely to be entire. She is now in Kansas, whither she was constrained to go, though hardly strong enough for so long and perilous a journey, by the dangerous illness of her mother. It is expected that in early December, she will again be with us, in Madison.

The University Commercial School.—We are pleased to learn that this excellent institution continues to flourish notwithstanding the hard times. The course of instruction is full and thorough, and the expenses are about one-fourth less than in any other similar institution of which we have knowledge. Gentlemen or Ladies desiring to acquire a mastery of the science of book-keeping and its collaterals can hardly do better than to attend the University Commercial School.

Address D. H. Tullis, Esq., Madison.

If any of our patrons who subscribed through us for *The Independent* last spring, are not receiving their paper according to published terms, they will please notify us.

[Prepared for the Oct. No., but crowded out.]

The Editor's Adventures in Virginia—Glimpses of Guerilla Warfare in the Mountains—"Cavalry Charge," &c.—On arriving in New York, we found dispatches containing the sad intelligence of the serious accident to Mrs. H., of which a substantially correct account was given in the August number of the FARMER. Our plan had been, first, to dash directly on to Wisconsin, straighten up our long neglected business, help put the Fair through, (not having learned that the State was to have none,) and then go to Virginia for our *better self*. "Man *proposes*, God *disposes*." So in this case.

Mrs. H., feeling, probably, that the family should do something for the country in a more direct way than by industrial service, had made a charge upon the enemy, [such is the humorous view we permit ourselves to take of the affair, now that she is quite out of danger,] and been severely (perhaps mortally,) wounded! Leaving all business, therefore, to take care of itself, we took the first available train for Baltimore, and thence over the Baltimore & Ohio R. R., made our way as rapidly as possible to Webster, (a little town near the junction of the Parkersburg and Wheeling branches,) where Col. Hall, the gallant commander of a portion of the Virginia Tenth, and temporary commandant at Beverly, had kindly proposed to have an ambulance and cavalry guard in waiting to escort us within his lines.

Nearly a month had elapsed since the sad injury to Mrs. H., and the uncertainties of the whole affair left us in a state of anxious suspense, by no means favorable to making observations by the way. Still, we were not altogether oblivious of the condition of the road and of the country through which we passed. Nothing in Maryland worthy of particular note—sour faces, and anti-Union mutterings not uncommon.

Harpers Ferry we had never seen, and so occupied the twenty or thirty minutes of our stop in exploring the town and noting the great natural defences of the place. There were the wrecks of the old arsenal made memorable by the seizure of Old John Brown, and of several other buildings, at different times destroyed, since the beginning of the war. There, too, was the wreck of the old railroad bridge, torn down and burned by the rebels, with the new iron one almost completed (since also destroyed and again rebuilt) and the remnants of fortifications on the surrounding hills. Considered as to its natural position, Harpers Ferry is certainly one of the strongest places we have ever seen, and, if manned by brave men, is capable of defence against very great odds.

All along the line of the road, deadened trees, half-destroyed fences, charred timbers, and blackened railroad ties gave unmistakeable evidence that fierce, destructive War had raged wherever there was anything to be defended or destroyed. The road itself—always one of the best and best managed in the country—has suffered terribly, and but for the energy of such men as Superintendent Smith and other able, untiring officers, aided by

the Government, must have been utterly abandoned long since.

IN A QUANDARY—GETS PLUCKY!

Arriving at Webster, we were not a little perplexed as to the continuance of our journey; for the ambulance and escort were not there. The fault was ours, and not the Colonel's, as we had sent to the wrong place the telegram which was to notify him of our coming. But there we were, nearly fifty miles from our destination, with mountains, forests, and numerous bands of guerillas between. To hire a horse was impossible, as it was quite sure to be captured. Company was equally out of the question, as none of the citizens happened to be in a mood for being shot. Should we wait a week and finally secure a guard from Beverly? or should we hazard the journey on foot and alone? The latter course was promptly decided upon; and so, after seeing that our powder was dry, we trusted to Providence and went ahead—making 27 miles before dark, (it was 10 a. m. when we started) with no other dis aster than that of being arrested by a Union picket and taken a half mile out of our way to the head quarters of a little band at Phillippi, and of being compelled to stop at a secession house over night.

In the early morning, we crossed over Laurel mountain, and after successfully dodging sundry guerillas, and running the gauntlet of a Union camp, without a pass, at 11 o'clock reached Beverly in safety.

Mrs. Hoyt's injury had even been more dangerous in character than we had imagined. The fall had been upon the solid rock of the rough and stony way over which her fiery steed had carried her for more than half a mile in his fierce pursuit of the foe, and it is still the wonder of all who witnessed the accident that she was not instantly killed. But, thanks to a kind Providence, to the skill of her excellent surgeon, and to the gallant devotion of the noble band of Ringold Cavalry, (God bless them!) who, dismounting by turns, tenderly carried her, upon an extemporized "stretcher," over the mountains, across swollen streams—and all the way through the severest rain storm of the season—a distance of thirty-one miles, to a Union house, she still lived, and was slowly recovering from the effects of the terrible shock. She was not yet able to travel, however, and we had no alternative but to wait for returning strength.

Meantime the programme of Jackson to invade the Border and Northern States, was being initiated, and the Guerrillas, "bushwhackers," and devils generally, were becoming more and more audacious and atrocious—stealing, robbing, burning, and murdering Union men wherever found. Moreover, Beverly, with its small force of but five or six hundred men and two cannon, was threatened by Imboden and two thousand desperadoes. We remained until they approached within twenty miles, and then, getting all the ladies of the officers and their families into wagons, prepared to "skedaddle."

TURNS COLONEL!

The post was already too weak for the enemy, and we consequently declined the gallant offer of an escort of cavalry. But the train was too precious to be run the risk of being "bagged," and must have a competent guard. We accordingly accepted the title of "Colonel," re-examined our side-arms, buckled on a sword kindly presented us for the occasion, mounted a bold, dashing young charger, and were ourself guide and guard!—conducting the whole party safely over Rich mountain,—the scene of McClellan's first battles—and through deep, wild gorges, some thirty miles to Buckhannon; thence by the same means of transportation, the following day, thirty miles further to Clarksburgh, on the lower branch of the B. & O. R. R.

It is very likely that our liability to be *bushwhacked* at every step and any moment somewhat enhanced the savage appearance of these mountains and gorges, but we are: nevertheless, sure of never having seen any portion of country in this or any other land half so squally looking as that! True, here and there was a cabin with a small patch of cultivated land, but the swarthy, sinister faces of the settlers contributed but little to our assurance of safety.

From Clarksburgh the way to Harrisville—the old residence of Col. H.—was safe and comparatively easy, and, in the evening of the third day of our journey, we rested—in the language of McClellan, after the battle of Antietam, *breathing freer*.

AGRICULTURAL CHARACTERISTICS OF WESTERN VIRGINIA.

Rough and mountainous, as compared with Wisconsin or any of her sister states, Western Virginia, nevertheless, has large agricultural capabilities. The soil of the valleys is, of course, highly fertile, and the heavy crops growing here and there upon the tops and the slopes of the mountains indicate that even the poorest soil is capable of yielding good returns with proper tillage. At present the agriculture of Virginia is, naturally, in a wretched state—weeds and brush having pretty much their own way. But when the war is ended, and slip-shod, ignorant traitors have given place to wide awake, intelligent loyal white men, this new and redeemed commonwealth will take a high industrial rank among the States.

The Farmer's Duty at the Polls is: First, to cast an intelligent, conscientious, patriotic vote; secondly, to induce his weak-kneed, party bound, or uninformed brethren to do the same; and, thirdly, to get everybody to subscribe for the FARMER! Let no man neglect his duty.

The Farmer for 1863.—We hear all the friends of the FARMER are preparing to do all in their power to extend its circulation the coming year. See Prospectus and let us early have the fruits of your good help.

Communications from Jas. Moore, A. G. Hanford, Geo. P. Peffer and others, received too late for insertion in their proper place, will be laid over until the next number.

The Editor's Tour on the Continent.—SAINT MARTIN'S, SAVOY, May 23.—Here, at last, in full view of glorious Mont Blanc! And as I must rest for the night at this place, I will send back a few words of the method and pleasure of my journey hither.

As anticipated when last I wrote, from Geneva, I succeeded in breaking away from the charms that so strongly bound me to that beautiful Swiss city, on the evening of the 26th, and again made my way into the realms of the French Empire; not of *old* France, however, only Savoy, which so lately as 1860 belonged to the kingdom of Sardinia, being Napoleon's reward for his share in the Italian war.

We could have waited two days longer in Geneva, and then have taken a "diligence," (a conveyance peculiar to this mountainous country—a sort of cross between a stage and a steamboat,) but my programme had been prepared with reference to *time*, as well as pleasure, and *it* would not wait. But what should be done? The way to Mt. Blanc was 50 miles long, and through a wild, mountainous country. Couldn't help it; time was precious; and so, with traveling bag slung over the shoulder, and umbrella in hand, the journey was commenced after the original method—the same employed by our paternal ancestor, father Adam, before coaches were invented or horses tamed.

It may have been sentimental—the idea—but, no matter, I was after new scenes, and new experiences, and so walked the first half of the distance by the dim light of moon and stars.

The sun went down upon Geneva in the distance, gilding its lofty spires with a glorious light, even after it had sunk quite behind the majestic Jura on the other side. The way was at first along the beautiful broad valley of the Arve, the roar of whose waters hastening toward the sea became more distinct as twilight came and hushed the busy stir of men, and gathered in the herds of wandering kine and flocks of mountain-loving sheep and goats. But soon the valley grew narrower, and the road began to wind around and up the side of the mountain; now affording a last glimpse of the Jura behind, now opening up, by a sudden turn, new and picturesque scenery in the Alps beyond, and anon leading the footsteps of the lone traveler across some deep gorge and thundering cataract, all the more grand and awe-inspiring for the dimness of the light by which they were indefinitely seen. The mountains, too, were magnified in their loftiness until they seemed to pierce the very heaven of heavens, and overshadow me as with the immediate and awful presence of the Almighty. Language is powerless to describe the emotions of an enthusiastic, worshipful soul in the midst of scenes of such sublimity.

Silently I walked on, communing alone with Nature and God, in the solitude of his mountains, until near midnight, when the winding way led into the little village of Bonneville. A glimmering light in a *restaurante* window gave token that some of the dwellers were yet awake, and a boisterous laugh and a hurrah induced me to halt and enter. The revelers were jolly Savoyards, on their way to market, who had stopped to have a good time—*un bon temp*. A half bottle of *vin rouge* and a slice of good bread, a humerous conversation with an intelligent farmer who had taken 3 bottles too many, and I resumed my way, refreshed and inspirited.

Day-dawn found me just entering the beautiful valley of Cluses—one of the most charming little garden vales I ever saw. Rich crops of wheat, barley, and grass were bending under the weight of fruit and dew, the morning birds were carolling their sweet songs, the matin bell of the village church, by a mysterious echo, chimed its anthem as it were from the clouds, and the finger of Aurora was upon the tops of the mountains. Oh, it was a morning to be remembered forever!

Arrived at Cluses—a very little town of perhaps 50 houses immediately at the entrance of a very narrow defile, which separates two converging ranges of the Alps—I halted, bathed, slept; breakfasted and dined together, and at noon resumed my journey. The day was one of God's best—the way as enchanting as imagination could picture—smooth as a floor, shaded by trees on either side, winding along the banks of the milky Arve, and overhung by rocky ribs of the mountain, more than two thousand feet above. Near the little village of Maglan was passed the cataract of Arpenaz, which leaps from a projecting rock 800 feet high, touching but once in its way and then only to fill the air with its jeweled, snowy spray and set a rainbow of glory on its front.

Just at eve, while yet the sun was lingering upon the mountain's icy peak and gilding the river and valley with a soft and mellow light, I came suddenly in view of Sallanche, its charming cluster of white houses resting so sweetly in the far-reaching shadow of the mountain above. Another turn in the way, and there was Mont Blanc! clothed in his jeweled robe of everlasting snow and crowned with ice that shall be his coronet while time endures. And there he stands before me now, as it were the throne of Heaven's Majesty, the "Great White Throne" of his final Judgment! Serene and awful, let me be silent in thy presence, O Mountain of the Almighty!

Fruits! Delicious Fruits! Haven't We been remembered, though!—Verily, Editors have some compensation, if they *are* compelled to work for nothing, and to boost every laggard enterprise worth helping. The consciousness of doing something worthy to aid a noble cause, and promote the best interests of a great community, is, of course, first; but we were just this moment thinking of some of the delicious fruits with which our friends have favored us since the beginning of October:

Apples—the "Cider," Seek-no-further, and others—from J. C. Plumb, of "Vine Hill;" all excellent, and worthy of their skillful producer.

A *Golden Pippin*—splendid, and weighing 17 ounces—from the orchard of Geo. Jackson, of Primrose. Who can beat it?

Samples of Delaware Grapes and of Ever-bearing Rasp-

berries (Belle de Fontenay) from the garden of Mr. E. B. Quiner, of Madison—as fine as could be.

And then, a whole box of the most delightful pears and grapes the world ever saw, all the way from Ohio! These last were grown in the Columbus Nursery, and were generously forwarded by our esteemed friend, A. G. Hanford, whose taste and skill as a horticulturalist, we have so often endorsed that there seems to be nothing further to add.

The pears were of the varieties known as Gray Doyenne, Swan's Orange, Belle Lucretia, Duchess d'Angouleme and others—so perfectly luscious that the mouth editorial *waters* at thought of them, even to this day.

The Grapes were of the famous Deleware variety, and have completed the work of our thorough conversion to the doctrine of their superiority, in delicacy of flavor and tenderness and sweetness of pulp and skin, over any other grape of our acquaintance. The Deleware is, moreover, reported to be perfectly *hardy;* the which being true, there is nothing in the way of an earnest recommendation that everybody get some of the cuttings for next year's planting.

Correction.—In line 14, of right hand column, page 472, for "familiar childhood," read "*formative* childhood."

CORRESPONDENCE.

A Worthy Example.—Read, oh ye Delinquents!—Mr. Editor:—The October No. of the Farmer came to hand last evening. This morning it rains, or rather *pours* in torrents, and did so a good part of last night. In fact, it has been quite showery and very warm for the season for some days past. No frost as yet to kill the frailest vegetation. Grass grows as in June.

During the shower this morning, I have taken up the Farmer, and of course, the first thing was to learn whether the Editor was at home. I found he was *thar*, and quite communicative, though *not any too much so.* He says in one place, that he is *mad*, in another place, that he cannot publish the Farmer much longer unless the Farmers of the State come to his help and pay up promptly, and contribute something from their quills or rusty pens to make the thing interesting. Now, this last remark is *sound*, *rational*, and the first is about equally so, for the confession of one's madness is an evidence of returning sanity. Now, Mr Editor and Publisher, I have something to say to *you*, as well as you to *me*. I have had a dollar of your money in my pocket since the first of January last, and more than that, (for I want to make a full confession—a clean breast of it, there has not been a day from that time to this, when I might not have sent the money on its way to you, but for sheer *carelessness and neglect*. Now, I do not wonder that you are out of patience, and of course out of money, if you send your paper to many such as I am. Will you forgive me?—But stop! do you see these two dollars and seven cents? One of the dollars is the pay for the Farmer the current year and the seven cents is the interest on your money since January last; the other dollar is to pay for the Farmer in advance for 1863. Now Messrs. Publishers, I think I hear you pronounce that blessed word "*forgiven.*" I feel better now, and breathe easier. Now I would respectfully suggest that you entreat all brother farmers who are guilty of a like sin of omission, to take the *anxious* seat at once, and *do works* meet for repentance.

The wheat is mostly threshed in this vicinity, quality fair, quantity light, varying from 7 to 15 bushels, rarely exceeding that. A number of farmers are sowing a few acres of winter wheat, it having done well here this season. Corn is sound and a fair yield; potatoes somewhat decayed.

Whilst writing this, my wife has brought me a bunch of Diana grapes—a splendid table luxury. Let me say that the Diana, Concord, Hartford Prolific, Clinton, Northern Muscadine, and Isabella have all ripened their fruit with me, this season, and will, generally, in this climate

J. C. Brainard.

Danville, Dodge Co., Oct. 8, 1862.

[Splendid! Brother Brainard, give us your hand. If getting "mad" is likely to yield such results generally, it may be best to *stay* mad! What a pity good examples are not more contagious! Thanks for the two dollars, (we can't take interest from so genuine a man, and so return the stamps,) and cheers for the product of the "old quill." Now the "talent" is fairly out, burn up the "napkin," neighbor, and give us the benefit of its *continued* use. "They that endure to the end," &c.—Ed.]

Dwarf Broom Corn.—Mr. Editor:—Can you through the columns of the Farmer inform me where the seed of the Dwarf Broom Corn can be procured, and at what price.

Please send me the August No. of the Farmer, as that No. did not come to hand, and I awfully hate to lose a number and spoil a volume of so useful a periodical.

B. B. Bishop.

Millville, Grant Co., Oct. 13.

[Last spring, Hon. M. K. Young, Senator from Grant Co., had some of the seed. Don't know who has it now. If any reader does, let him speak up. Men of enquiring minds always appreciate the Farmer!—an invariable rule.—Ed.]

The Difference in Calculation.—J. W. Hoyt, *Dear Sir:*—Enclosed you will find one dollar for which you will please give Mr. ———, (of this place), credit, and stop his paper, (The Wis. Farmer.) He gave me the money, and wished me to write for him, saying he liked the Farmer, but could not afford to pay for it.

You will also find enclosed two dollars, and stamp, for which I wish you to send me the Wisconsin Farmer and the New York *Tribune*.

My neighbor cannot afford to take the Farmer, but *I cannot afford to do without it.* I esteem it more than all the other publications which I take. T. N. Goodrich.

Money Creek, Minn., Oct. 21, 1862.

Breaking the Ice.—Mr. Editor:—I agree with you that farmers ought to write for their paper. Some will argue that they pay for what they get, and therefore ought not to be expected to do more. Even granting this position, which is a very selfish one, there are other reasons why he should write for his paper.

First, he will be more than recompensed by the increased interest which he will have in it; furthermore, he will be paid the second time by the diversity of opinion which he will have access to, from the fact that the example will stimulate others to follow suit; and finally, he will be three-fold benefitted in the increased value of his *Farmer*—as it is to be presumed, that when the matter amounts to so much that the present volume will not contain it, the Publishers will enlarge the size of their sheet; especially if the subscriptions increase in ratio with the contributions which they certainly ought to do.

I never have before this written a line intended for the public eye, but there must always be a beginning in this sphere.

As discussion tends to bring to light and disseminate sound doctrines and explode incorrect ones, I would suggest that the Editor, from time to time, introduce such subjects as he thinks proper for interested parties to exchange opinions upon. It would not only be a source of pleasure to those actively engaged, (if conducted courteously,) but would also be both gratifying and edifying to others. Do you endorse my sentiments Mr. Editor? I hope so, especially in regard to the *Farmer*.

My good wishes to all subscribers to the *Farmer*, and may it and they ever prosper. W. A. B. Bangs.

Kingston, Oct, 19, 1862.

[You are most welcome, friend Bangs, to the columns of the *Farmer*. Your sentiments have our cordial endorsement, and at your suggestion, we propose four subjects for discussion in the numbers next succeeding this —"The most Economical Disposition of Straw," "Winter Care of Sheep," "The Parent's Duty to the Neighborhood School," and "Butter-Making in Winter." Take your choice, brother farmers and intelligent housewives from among these topics, or any others, and let us hear from you promptly, practically and pointedly.—Ed.]

Honey Locust Hedge.—Mr. Editor: How does the Honey Locust hedge prosper that was planted some three years since?

Is it necessary that tile for underdrains should be placed below the action of frost? or, in other words, will frost injure the drain, if not placed below its reach? D. C.

Fond du Lac, Oct. 12.

[We are at a loss to know what particular Locust hedge is referred to by our correspondent, and are, therefore, unable to answer the question. Possibly allusion is made to some hedge planted or proposed to be planted by our former associate, Mr. Powers, who, if he did so plant, will doubtless be kind enough to report through the Farmer.

As to laying tile, there can be no question with those who have tried it, that they *should* be laid below the line of frost.—Ed.]

OUR BOOK TABLE.

Open Air Grape Culture; A Practical Treatise on the Garden and Vineyard Culture of the Vine and the Manufacture of Domestic Wine. Designed for the use of Amateurs and others in the Northern and Middle States. Illustrated, &c. By John Phin, author of "Essay on Open Air Grape Culture," to which was awarded the First Prize by the American Institute. C. M. Saxton, Agricultural Book Publisher, New York.

We are indebted to the Publishers of this neat little volume of 376 pages duodecimo; but as we have not yet found time to give it a thorough examination, we defer all comment as to the merits of the work, scientifically and practically considered, until some future time.

A careful and unprejudiced practical horticulturist, who has given it a careful reading, gives the following as his verdict:

"It is a very extensive collection of theory and practice of Grape Growers of the present and past century; elaborating most of the prevailing popular systems, in a very lucid manner.

But how the author, with the evident intention of getting up a very popular work, could omit even the mention, of the new theory and system of Grape Growing, called the "dwarf and renewal system," which promises such good results in simplifying the practical operations of the vineyard, is really strange.

The persevering student of theory and practice, will read the work with pleasure and profit."

Mechanically considered, it is a credit to the enterprising Publisher. It will doubtless find ready and extensive sale.

Causes and Cure of Diseases of the Feet; with practical suggestions as to their clothing. By C. H. Cleaveland, M. D. Illustrated. Printed by Bradley & Webb, Cincinnati, Ohio.

A most excellent work very opportunely given to the public. It is characteristic of the able Author of this book that he goes to the bottom of whatever subject he discusses. He cannot be superficial if he would, and he would not be if he could.

And yet he possesses the happy faculty of so popularizing his works as that they are well adapted to meet the demands of the unscientific reader.

In this handsome monograph of 111 pages octavo, we have matter of exceeding great value—information, which, if possessed by the people at large, and especially by the parents of families, would save a vast amount of suffering, and insure to the feet of the men and women of the next generation naturalness of form, instead of the miserable corned, bunioned, distorted and disjointed clumps upon which the present generation is hobbling its way through the world.

We *know*, unhappily, whereof we speak, and it is because we have had some experience in the way of tortured feet that we so cordially welcome this admirable work and recommend it to—*everybody who has or expects to have feet!*

The illustrations are skilfully designed, and add much to the value of the work. Physicians, Shoemakers and People, send for the book.

Messrs. Robbins & Chandler, of Rock Terrace Nursery, Madison, Wis., Messrs. Bateham, Hanford & Co., of Columbus Nursery, Columbus, O., and A. R. Whiteney, of Franklin Grove Garden and Nursery, Franklin Grove, Illinois, are entitled to thanks for Descriptive Catalogues of stock. Men whose efforts are honorably directed to the cultivation and introduction of fruits, ornamental trees and flowers have a claim upon our cordial sympathy and friendly co-operation, and the evidences of their prosperity are always heartily welcomed.

STATEMENT

OF THE

Madison Mutual Insurance Company,

FOR THE YEAR ENDING

JANUARY 1st, 1862.

Made to the Governor of the State of Wisconsin, as required by the provisions of chapter 393, of the General Laws of 1858.

Total amount of accumulations,		$216,865 76
ASSETS:		
Premium notes of policy holders	$180,124 63	
Cash on hand, and due from policy holders for cash premiums,	35,408 66	
Am't secured by mortgage and judgment,	332 47	
Office furniture and fixtures,	1,000 00	$216,865 76
Whole number of policies issued,		14,357
Am't of outstanding risks thereon,		$16,320,789 00
Reported losses awaiting further proof,		3,709 80
Losses recently reported,		3,433 89
Whole number of policies issued in 1861		5,778
Amount of outstanding risks thereon,		$5,315,173 00
Amount of premium notes thereon,		93,944 06
Amount of cash premiums thereon,		48,377 36
Total amount of losses reported during the year,		15,801 13
Total am't of losses paid during the year,		6,881 16
Amount settled by drafts and awaiting the call of the insured,		1,568 85
Amount of commissions paid to Agents,		7,460 84
Am't paid for Advertising,	$1,625 20	
Amount paid for printing,	811 00	
Amount paid for postage,	866 22	
Amount paid for office rent,	200 00	3,002 42
Expenses paid, including all compensation of officers and directors—stationery, extra clerk hire, fuel, lights, and all other incidental expenses,		6,069 56

STATE OF WISCONSIN, } ss.
DANE COUNTY,

We, the undersigned, being the President and a majority of the Directors of the "Madison Mutual Insurance Company," do solemnly swear, and each for himself saith, that the foregoing is a true and correct statement of the affairs of said company in the particulars therein named, as appears by the books of the company, according to the best of our knowledge and belief.

D. J. POWERS, President.
JOHN W. BOYD,
SAMUEL D. HASTINGS,
B. F. HOPKINS,
TIMOTHY BROWN,
ALBERT WOOD,
G. F. HASTINGS,
H. H. GILES,
SAM'L R. McCLELLAN,
G. R. MONTAGUE,
ORRIN GUERNSEY,
LUTHER BASFORD,
DAVID ATWOOD,
D. WORTHINGTON.

Subscribed and sworn before me this sixth day of January, A. D. 1862. V. W. ROTH, Notary Public, Dane County.

Comparative Statement of the business of the Company for the years 1859, 1860 *and* 1861:

	1859.		1860.		1861.	
Total amount of accumulations,		$30,080 93		$110,369 49		$216,865 76
ASSETS:						
Premium notes of policy holders,	$35,402 46		$62,487 27		$180,124 63	
Cash on hand, and due from policy holders for cash premiums,	2,956 02		16,509 74		36,408 66	
Amount secured by mortgage and judgment,	332 47		332 47		332 47	
Office furniture and fixtures,	500 00	30,080 96	1,000 00	110,369 49	1,000 00	216,865 76
Whole number of policies issued,		4,807		8,579		14,357
Am't of outstanding risks thereon,		$2,409,950 49		$5,451,115 49		10,320,789 00
Total am't of losses paid and settled,		2,409 45		5,903 31		8,450 61
Losses reported and awaiting further proof,						
Whole number of policies during the year,		1,157		3,772		5,778
Am't of outstanding risks thereon,		$1,140,076 00		$3,910,115 40		$5,315,173 00
Am't of premium notes thereon,		17,109 82		68,789 45		93,944 06
Am't of cash premiums thereon,		11,059 04		35,761 88		48,377 36
Am't of commissions paid to Agents,		3,317 70		10,339 18		7,460 84
Am't of expenses paid, including all compensation of officers, printing, advertising, postage, and all other incidental expenses,		3,317 51		5,847 44		9,071 89

The foregoing statement of the business of this Company for the past year gives a gratifying evidence of its high standing in the public estimation and of the success of its rules and principles of action.

Although its business for the preceding year (1860) was much larger than that of any previous year, and notwithstanding the general depression among farmers the past season, arising from light crops and low prices, the above figures show an increase of nearly *seventy per cent.* in the number of policies issued, and of *over seventy per cent.* in the amount of cash premiums for the past year.

We invite a careful examination of this report. Its figures make a stronger argument than any form of words, and prove a rise and standing in popular favor unparalleled in the history of the Northwest.

DIRECTORS AND OFFICERS FOR THE YEAR 1862:

DIRECTORS.

J. W. BOYD, Walworth County.
B. F. HOPKINS, Dane County.
D. WORTHINGTON, Waukesha County.
S. D. HASTINGS, Trempeleau County.
G. F. HASTINGS, Dane County.
DAVID ATWOOD, Dane County.
G. R. MONTAGUE, La Crosse County.
S. R. McCLELLAN, Kenosha County.

THE WISCONSIN FARMER.

J. W. HOYT, : : : : : : : : : : : EDITOR.

VOL. XIV. MADISON, DECEMBER 1, 1862. 12.

The Great International Exhibition.

No. III.

THE UNITED KINGDOM OF GREAT BRITAIN.

To England belongs the high honor of originating the idea—or at least of giving that idea life in action—of gathering together, at one place, the representative products of the industry of all the nations of the earth. Still more narrowly and correctly stated, it was His Royal Highness, the noble Prince Albert, who, in the greatness of his truly royal mind, conceived the plan of instituting an Exhibition which should afford to the world's civilization a sure and elevated stand-point, wherefrom to survey the great Past, to gain a just and comprehensive view of the Present, and whereupon to commence a more enlightened and systematic effort for the attainment of the better possible Future. It was natural and proper, therefore, that England's vast metropolis—which is also the world's metropolis—should be selected as the location whereat the proposed Universal Exposition should be held. The first International Exhibition was accordingly located there; and the second, inasmuch as the scheme had its organization there, was instituted at the same great centre.

This circumstance gave to Great Britain an advantage; but it was an advantage to which she was justly entitled—if, indeed, it be not true that she alone, of all the nations was competent to the successful execution of a scheme involving the necessity for so great a concentration of influence, energy and capital. The question in which she is now most interested, and the answer to which determines the share of honor to which she is entitled as the leading industrial nation of the world is, whether she acquitted herself worthily.

How nobly she vindicated her right to this high distinction, on the occasion of the Exhibition of 1851, the vast display of her manifold works of Industry and of Art at that time made, and especially that glorious Crystal Palace, which the poet Chaucer would seem to have foreshadowed in the lines,

> "I dreamt I was
> Within a temple made of glass,"

sufficiently attest. Nor has she acquitted herself less nobly in this, her second peaceful contest with all the nations. Would we had the power to do her full justice in the account we have to give. But that is not possible with our imperfect knowledge of the many arts represented in so vast a department, with the brief imperfect notes gathered in weeks where months should have been employed, nor finally in any event within the little space to which these cursory papers must necessarily be restricted.

To say that Great Britain, including her colonies, occupied one-fourth of the whole space provided within the vast Exhibition Building would certainly be within bounds, and we feel confident that one-third would be nearer the true estimate. Every department, from the multiform products of the mine up to the highest region of Art, was most nobly represented. In Class 1.,

MINING, QUARRYING, METALLURY AND MINERAL PRODUCTS,

England and Scotland alone offered a larger number and greater variety of articles than all the rest of the world. Many of the exhibitions were logically and most beautifully ar-

ranged—the ore first, then the crude metal from the smelting furnace, then the refined metal, and finally the various implements and articles of hardware for the manufacture of which that particular metal was found to be best adapted; these various articles themselves being arranged so as to illustrate the successive steps necessary in the process of manufacture.

There were superior freestones from the Northumberland and Ketton quarries; granites from North Devon, Aberdeen, Tavestock, and Macclesfield quarries; marbles from Devonshire, Dorset, County of Galway and Derbyshire; sand and "grit" stones of good quality for grind stones, together with fine specimens of their manufacture, from Newcastle-on-Tyne, Yorkshire, Middleton, Wigan, Gateshead, and from the Pontvair quarries in South Wales; magnificent specimens of slate from Carnavonshire, Swansea, Portmadoc, from the Burlington quarries, Lancashire, and from the Tintagal quarries, Carnelford; building stones in great variety from many parts of the kingdom; beautiful vases, tables, mantles, and various ornaments made of the black Derbyshire marble, serpentine, Derbyshire fluor spar, and the more precious minerals; china and porcelain clays from Cornwall and Plympton; fire clays, together with retorts, bricks and crucibles, from Stourbridge and Newcastle-on-Tyne; tobacco pipes, and potters' clay, with manufactured articles, from Kingsteignton in Devonshire, and from Derbyshire; terra cotta clay from Stamford; purified Fullers' earth for various manufactures, from Finsbury; together with very many materials of like character, of which our limited space well not allow even a mention.

Coals of every description—from the inexhaustible mines of Newcastle-on-Tyne, from Glamorganshire, Warwickshire, Derbyshire, Leicestershire, and numerous other localities—the best in the world.

And then the metallic ores and metals proper—what a great variety, and what vast quantities there were of these! Iron ores, pigs, and manufactures in iron, from the Derby Iron Works, Derby, from Ulverstone, from near Limerick, from Cornwall, Whitehaven, Cumberland, Swansea, Darlington, Stockton-on-Lees, Aberdare. Ferryhill in Durham, from Oxfordshire, and other places—a splendid collection.

There were also fine specimens, in large quantity, of lead and silver—lead ores from the mines of Durham, Cardiganshire, Cornwall, Shropshire, and Essex; of copper ores and copper manufactures, from Glamorganshire, Yorkshire, Shrewsbury, Cornwall; zinc, nickel and silver ores and metals, from Swansea; tin from Cornwall and Essex, with models of furnaces and machinery employed in smelting and working; aluminium and its alloys from Newcastle-on-Tyne.

Where there are so many things—raw materials, processes and machinery, used in preparing the various minerals above named for the use of man—deserving consideration in detail, it seems difficult to select subjects for special remark. Yet, as it is our object, not so much to gratify a laudable curiosity on the part of our readers to know what was exhibited by the various nations in competition, and the portion of the respective countries from which certain articles were derived, as to communicate valuable practical information, we must dwell for a little time upon special products and processes in this class.

THE MINERAL RESOURCES OF GREAT BRITAIN, AS ILLUSTRATED,

can, of course, only be glanced at in this connection. Still, as the immensity of these resources more than any other material advantage, has secured to the English nation the proud position it occupies among the great powers of the earth, a mere glance will be interesting to those of our readers who are not already familiar with the whole subject.

Building Stones, Marbles, &c.—Probably no other nation possesses a more extensive and varied supply of the marbles, other building stones, and stones susceptible of use for ornamental purposes—a circumstance of great importance, as it renders possible that rich massiveness and durability of public works which so remarkably characterize the national edifi-

ces and other structures of the British Kingdom.

Granite—which is one of the most durable of building stones—as we have seen, abounds in many localities and is, likewise, very extensively used in the construction of roads, bridges, fences and monuments. Thus the granites of the west of England have supplied the Commercial Docks of London, the Hull,Great Western & Birkenhead Docks, the Keyham Docks at Devonport, the London Docks, the Thames Embankment, many of the great stone bridges which span the Thames, and many other similar works, and have even been exported to Denmark and other parts of the world for like purposes. The beautiful granites of Scotland, especially those remarkable red and mottled granites, found in the neighborhood of Aberdeen, and known as "Aberdeen Granite," furnish a most desirable material for pillars, stair railings, balustrades, obelisks, &c., and are found thus appropriated in all parts of England and Scotland. While Ireland is supplied with quite as valuable dark colored, reddish gray, and bluish gray granites from the extensive quarries which lie in the counties of Aicklow, Canlow, and Kilkenny, along the southeastern coast, and in the county of Galway, on the west. The samples on exhibition were very fine.

Limestone abounds in many parts of the kingdom, and the varieties of marbles are numerous and interesting. Many of the specimens of manufactures of the Derbyshire marbles were as remarkable for the variety of their color—white, gray, russet, dove, blue, and black—and for the beauty of their *mottle*, occasioned by the presence of innumerable and curious fossils, as for fineness of workmanship and beauty of design.

The limestones and marbles of Devonshire are scarcely less interesting than those of Derbyshire, possessing beautiful tints of color and abounding in fossils. Ireland, also, is rich in marbles—Cumunara, Donegal, Churchtown and Kerry abounding in *white;* Kilkenny, Galway, Churchtown, Kerry, Tipperary and Donersile, in *black;* and almost every portion of the large limestone district of the Island in *colored* marbles.

The Serpentine of Great Britain is one of the most beautiful stones in the world for ornamental purposes. It is composed of silica, magnesia and water, (hydrated silicate of magnesia, therefore,) and is green and red, with its several shades of these colors arranged in striped, dotted, and clouded delineations.—Hence its name—serpentine, *serpent-like.* It is so soft that it can be turned in the lathe, and yet is teugh and takes a beautiful polish.—Moreover, it withstands the action of the atmosphere exceedingly well, and is admirably adapted for chimney pieces, columns, vases, &c., &c. It occurs in large quantities in Cornwall—where by means of powerful machinery it is manufactured on an extensive scale—in Anglesea, and Bauffshire, Scotland; in Unst and Fettar in Shetland; and also in Mayo and Galway, Ireland.

Specimens of Fine Work in Stone.—Among the numerous specimens of work in the lapidary's art, we should not omit to speak of some remarkably beautiful examples of the *inlaying* of marbles, executed in Devonshire and Derbyshire. The work is done in imitation of the Florentine art, the surface of the tables presenting the most beautiful floral and other designs—the different requisite colors and shades of color being produced by different colored marbles or more precious stones, such as jasper, agates, chalcedony, lapis lazuli, &c. A piece of black marble is selected of the size and thickness required for the table top intended to be inlaid. The design is then drawn upon the table and the marble is skilfully cut away to the proper depth withfn the outline, and stones of the requisite color are fitted into their places so as to bring out the design.—This is the process employed in the Derbyshire works, and there is probably no handsomer or more durable execution of inlaying in the world. In Devonshire, the veneering process is used—the designs being produced by cementing to the surface of the marble the various pieces of accurately fitted stones. Properly

speaking, therefore, it is *on*laying. Malachite when applied to large surfaces is always put on in this way.

The China Stone of England is found exclusively in Cornwall, where about one hundred thousand dollars worth are annually raised. It is a peculiar kind of granite, partially decomposed; the peculiarity consisting in the absence of mica and the presence of glossy scales of a greenish yellow talc, instead. This Cornwall China-stone is worked up in Staffordshire; being used as a glazing for the finer kinds of ware.

The Slate on exhibition, in the various forms of roofing slates, brick slates, for paving, chimney-pieces, tables, drinking-fountains, &c., shows that this material abounds, that it is of a very superior quality, and that it is coming into very extensive and varied use. Some of the samples shown were the most remarkable specimens of which we have any knowledge. One slab measured some twelve feet by seven or eight, and had a uniform thickness of about three inches. There were likewise samples of roofing slate of a quarter of an inch in thickness, ten inches wide, and ten feet in length—perfectly uniform and almost smooth enough, as they came from the quarry. for use as school slates. These particular specimens were from Langollen in North Wales, and belong to what is known by Geologists as the Upper Silurian system.—There are other valuable quarries in various other parts of Wales, and belonging to the Lower Silurian and Cambrian formations.—Slate is also found in Cornwall, Devonshire, Lancashire, and various other parts of the kingdom. Mr. Robert Hunt, F. R. S., Keeper of the Mining Records, &c., gives the aggregate product of the several quarries of England as 388,250 tons per annum. London alone consumes about 60,000 tons—one-third of this quantity being in slabs and the remainder in roofing slates, which last are sold in nine sizes, designated as "ladies," "countesses," (three sizes) "duchesses," (two sizes) "queens," "rags," and "imperials." The "ladies" measure 16 inches by 8, and weigh 25 cwt. per thousand of 1200 slates. The "duchesses" measure 24x12; and this is the largest size which are sold by the thousand—all above going by the ton.

A process has been invented for giving to slate a beautiful enamel, which very much increases their value, and must serve to introduce it still more extensively as a substitute for marble.

The Chalks and Whiting on exhibition were from Gray's Chalk Pits, in Essex, and from Beverly in Yorkshire- These products are derivable, however, from many other sources—chalk, particularly, being the principal rock formation in many of the bluffs, hills and ridges of England. The Grays Quarries are remarkable for the fossil remains of the mamalia and for the variety of useful substances found with the chalk—whiting, whiting sand, (for asphalte and plate glass), black flint for pottery, building and gun flints, foundry loam for moulds for iron castings, and luting for furnaces being among the number.

Various valuable Clays likewise occur in many localities, as noticed in the foregoing enumeration of "Mineral Products, &c."

The Porcelain or China Clays (Kaolin) which have furnished so many beautiful manufactures for the Exhibition are chiefly found in Cornwall and Devonshire. They occur in formations resembling decomposed granite, and when first raised from their beds look like common mortar with a rich dissemination of quartz and mica. Sometimes it contains iron pyites in the form of veins and small masses of shorl, which gives to it a rusty color, and hence requires to be separated.

The process of preparation for use is interesting, and as we have beds of the clay in this State, we herewith give the process as described in the Handbook of Mr. Hunt:

"After the impurities (those mentioned above) have all been carefully separated, the clay is next conveyed to the washing place and is then ready for the first operation of the process. A heap of the clay being placed on an inclined platform, on which a little stream of water falls from the height of about six feet, the workman constantly moves it and turns it over with a *piggle* and shovel, by

which means the whole is gradually carried down into an oblong trench beneath, which is also inclined, and which ends in a covered channel that leads to the *catch-pits*. In the trench, the grains of quartz and mica are deposited, but the other parts, in consequence of their greater levity, are carried onward in a state of suspension. This water is conducted into a series of pits, lined on the sides and bottom with cut moorstone, (a whitish kind of granite), laid in a water-proof cement. In these pits the coarser matters are gradually deposited. In the first pit the grosser particles collect; and, being of a mixed nature, are always rejected at the end of each day's work, by an opening provided for that purpose at the bottom of the pit. When the water has filled the first pit, it overflows into the next, and in like manner into the third; and in these pits, particularly in the second, a deposit also takes place, which is principally *mica*. The water, still holding in suspension the finer and purer particles of porcelain clay, next overflows into larger pits called *ponds*, which are of the same depth as the first pits, but about three times as long and wide. Here the clay is gradually deposited, and the clean, supernatant water is from time to time discharged through plug-holes on one side of the pond. This process is continued, until by successive accumulations the ponds are filled. At this stage the clay is in the state of a thick paste; and to complete the process it only remains to be consolidated by drying, when it is fit for the market."

At some of the works the process is considerably shortened by the use of machinery and the drying is hastened by artificial heat.

Eighty-eight thousand tons of this clay are produced for market annually, Cornwall yielding 85,000 tons of this amount. It is used not only in the manufacture of China ware, but also in the making of paper and in bleaching calico.

The Stourbridge Fire Clay is found in the coal measures. It withstands the action of intense furnace heat (whence its name *fire*) and is of two kinds, white and black; the former being used for glass-house pots, and the latter in making crucibles for steel, iron, brass and some other metals. Fine examples of these manufactures were on exhibition.

The "Poole" Potters' Clay, from Dorsetshire, was represented by numerous specimens of brick, tile, stone ware, ornamental works, &c.; and the Teignmouth *Pipe* Clay—a peculiar granitic clay from Devonshire—by like manufactures, and by masses of alum, one of its important chemical products.

But we have already prolonged this paper beyond our intention. In the next number we shall discuss the Metallic ores of Great Britain, their Products and Improved Processes—rendering the subject more interesting, we trust, to most readers than it has been possible to make this present article.

December and Some of its Duties.

The golden days of autumn have, at last, all gone, and December, hoar with frost, has come, ushering in the reign of winter. The dilatory and unfortunate farmer shrugs his shoulders, and regrets that Old Time is so unclever and will not wait. But the thrifty and self-helpful rejoices in that he has faithfully done his work and is now prepared to welcome the season of bodily rest, of social pleasure, and of intellectual improvement. So much for energy and application, when they can be made available in completing the labor of the year.

But may there not be something yet left undone, that is necessary to the comfort of domestic animals, the saving of valuable produce or implements, the economy of the household, and to the better advancement of the highest interests of the family? We fear there may be; and to the end that nothing of importance be forgotten, let us make a few enquiries:

Implements.—Have you brought from the field and properly sheltered all your reapers, harrows, rakes, plows, drills, &c., &c.?—or do they yet lie out with a prospect of remaining until spring exposed to rain and snow, and of thus depreciating in value more than would be necessary with two years' reasonable use, with care? Come, neighbor Shiftless, don't be shiftless, in this particular, any longer. A few hours' work may save you fifty or a hundred dollars.

Grain, Hay and Straw Stacks.—Have you properly covered them, so that they will not be saturated with water all winter? A little attention here will pay a large per cent.

Sheds for Stock.—Have you all your cattle, sheep, and swine require in this respect? If not, don't rest a day without beginning the work of their preparation. Humanity and economy unite in demanding this at your hands. Don't be saving of your partitions.—There is no economy in forcing all your stock, horses, horned cattle, calves, sheep and pigs, into one grand enclosure. The masters in each line will monopolize the best of everything to the exclusion of their weaker companions, and not unfrequently the life of a valuable animal

will be lost as a result of this foolish congregation of animals that ought to be separate. Animals bearing young, of whatever kind, should be carefully kept apart, and always tenderly managed.

Close stables—tight we mean—are not healthful. At least, it is bad for animals to be kept constantly in such stables. Fresh air is as essential to their health and comfort as to ours. It is well for sheds, even, where there are many individuals occupying one building of this sort, to have an open yard connected with them, into which, when the weather is not stormy, they can go without restraint.

A plenty of water is also essential. The idea that sheep, or domestic animals of any other sort, require water only once a month in the winter is founded neither upon fact nor philosophy. Animals will often eat snow when they can do no better, and thus furnish their systems with the needed element; but the form in which they get it, in this case, is not so wholesome, and they should not be driven to this extremity.

If not already provided with fodder racks, do not fail to construct them as early as possible. Throwing feed upon the ground to be trod on and otherwise soiled is a very shiftless way of doing business, and the most enterprising farmers never manage in that way.—Light racks, such as can be conveniently moved from time to time are the best. Any farmer with a grain of ingenuity can construct them.

Your Meadows.—Do they yield as large a crop as you want? If not, wouldn't it be well to top-dress them with compost or well rotted manure? The manure would protect the roots of the grass to some extent, and during the winter and spring much of its fertilizing material would be washed into the soil. Now is the time to apply it, and the frosty mornings render the labor of hauling comparatively easy. Try it.

Your Root Cellars are, of course, well protected from the frost. Have we made a violent presumption? Then attribute the mistake to our good nature, and let not another cold night pass without making all your exposed stores of roots, vegetables and fruits perfectly secure.

Fruit Trees must have certain attention this month, if you would have an abundance of fruit in the future.

To protect from mice, earth may be thrown up about the crown of the roots, or snow as it falls may be trodden down about the trunk.—If newly planted and young, a mound of earth to the height of a foot or eighteen inches will be of service in protecting from cold, as well.

Pruning may be done this month, if the weather should be favorable. Thin out all superfluous, and especially all unhealthy branches, cutting close to the trunk or larger branch, so that the bark may, in time, heal over the wound, and thus prevent decay. This is important.

Cuttings for next year's grafting should also be taken now. Select the best matured new wood, cut with a sharp knife, tie up in bundles, and cover up in dry sand or earth, and keep in a dry place of moderate temperature. The cellar is the best place.

So much for the farm and the orchard—the care of implements, stock, meadows, and fruit trees. A word in the next place of things not material, and yet not less important.

The Family.—Your attention has been carefully called to the importance of looking well to the necessities and comforts of your cattle and the products of the field and orchard; but are not your wife and children of infinitely more worth than multitudes of cattle or countless flocks of sheep? See that the companion of your life suffer for the want of no convenience that can possibly be supplied to her, and that she have a little leisure, as well as yourself, for the improvement of her mind. To be sure, the times are trying, and the necessity for industry and economy is likely to be more imperative than heretofore; and yet, if you will help her, as best you can, by allowing her to waste no strength in doing what does not belong to her to do, and by yourself sharing her more masculine labors during the winter when she has a great deal to do, and you comparatively little, the occasional spare moments

thus gained will enable her to devote more time to social and intellectual improvement.

The children too—don't forget *them*. One good boy or girl—and if they are not good it's pretty generally the fault of their parents—is certainly worth at least a dozen calves, and yet they often receive less of the father's attention! During the day have them attend school,—yourselves going with them occasionally, for their own and the teacher's encouragement—and at night gather them about the family hearth and help them to cultivate a taste for mental and moral improvement.

Finally, forget not *yourselves*—that is, unless you are already perfect in all that makes a thrifty and successful farmer, a wise and noble man.

Retentive Power of Soils.

Much has lately been said in regard to the retention of certain manurial elements of soils. The assertion of Liebig has been often quoted, that potash and other saline manures, "cannot be washed out of the soil." Prof. Voelcker, in a late lecture, alluded to this, and stated that even with water containing ammonia, potash, &c., he extracted potash from the soil, although this was not his intention. Hs said:—

"It is true that all soils, not excepting the most sandy ones, have the power of rendering insoluble to a great extent the soluble fertilizing matters that are usually found in manures; but they have not the power of rendering them completely insoluble. From very dilute liquids they take away very little indeed. I could refer you, if time permitted, to experiments which I have made expressly with the view of ascertaining whether soils have the power of retaining soluble matters to any extent. It may suffice to state, in a general way, that the weaker the solution of soluble matter, the less the soil is capable of retaining. Thus in operating with a very dilute liquid, containing very little ammonia, I found that hardly any ammonia was retained by the soil; and again, that proportion of phosphoric acid which is left in the liquid after it has passed through the soil is just as large as it was before it was put in the soil. By filtering very dilute liquid through soil which, like clay soil, contains potash, you may even take out the potash, as was the case in an experiment which I made on Mr. Mechi's soil. By filtering some of his tank-liquid through his clay lands, I actually obtained more potash in the liquid filtered through the soil than was contained in the tank-liquid not thus filtered; thus showing plainly that in the case of a very dilute liquid, the fertilizing matter is not retained in the soil."

Keeping Potatoes.

Owing to the fact that potatoes generally command a better price in the spring than in the fall, many of our farmers would prefer keeping them until then, but for "the trouble of keeping them."

The main danger is of their rotting; but if kept dry this is not chargeable to their keeping, for the rot is in them when they leave the patch.

Some take great precaution to prevent them from freezing, and these very precautions are too often the cause of their destruction. In this, as in many other farming operations, we should endeavor to follow nature as much as possible. I have often plowed up potatoes in the spring which have remained in the ground all winter, with but two or three inches of earth on top of them, and yet they were as good as when fresh dug.

I will hazard the assertion that freezing will not injure potatoes, or any other root or fruit; it is the thawing which does the damage, and not the freezing, as is generally supposed. Nor will gradual thawing hurt them; it is only when the thawing is too sudden that they are injured

If we take two frozen potatoes, apples, or other fruit, and place one under the stove, and the other in water a little above the freezing point, we will find that the former will be spoiled while the latter is not injured, because with it the thawing is done gradually.

Potatoes may be heaped up in the patch and covered with two or three inches of dirt well packed down, and they will keep in spite of a dozen freezings and thawings, if kept dry.

If kept in the cellar it should be in a tight box with a lid, that they may always be in the dark, to prevent sprouting; for if they once begin to sprout, the starch which gives them mealiness is changed into other compounds more favorable to the vegetation of the sprouts.

If while the potatoes are in the cellar they should freeze, do not wait for them to thaw, but cover them with straw, old clothes, shavings or saw dust, and let them thaw very gradually, and they will come out good.

This will apply to turnips or any other root, as well as to apples and other fruits. The main item is to keep them dry, and if buried to provide drains to carry away the water from the heap.—*Cor. Germantown Telegraph.*

Most Food to the Acre.—Humboldt estimates that an acre of ground planted with bananas, is sufficient to support fifty men, while the same extent of land in wheat would barely supply the wants of three. If the climate of the Valley of the Mississippi would admit of the cultivation of the banana, at the above rate, as there is said to be land enough for eight millions of farms, of one hundred and sixty acres each, one half, or four millions, would sustain a population of thirty-two thousand millions, which is more than thirty times the present population of our globe.

A New Way to keep Potatoes.

A gentleman who has tried it a number of times with perfect success, recommends the use of lime in putting up potatoes for the winter. His plan is to first sprinkle the bottom of the bin with lime, and then to put down a layer of potatoes some six inches thick, evenly spread. He next sprinkles lime over the potatoes and then puts on another layer of potatoes; repeating the work of spreading and sprinkling until the bin is full, and using about one bushel of lime for every forty bushels of potatoes.

The theory is that the lime absorbs superfluous moisture and pevents decay. He affirms that this process has often saved his tubers after they had begun to rot.

It may be presumed that our farmers have dug and stored all their potatoes ere this, but as there seems to be an unusual tendency to the rot this season, it might be well to examine such as are stored in the cellar, assort, and re-put up after the manner recommended. The trouble and expense would be but very little, and no possible harm could come of the experiment.

The Proposed Substitute for Cotton.

Some person in England, signing himself "The Inventor," claims to have discovered a substitute for cotton, which he proposes to throw open to the world, without waiting for the monopoly of a patent, trusting that public gratitude would ultimately give him a sufficient pecuniary compensation. Some small specimens of the material have been examined by a retired cotton-lord, who reports that its color, length, and fineness are all that can be desired; that its strength had not been ascertained, and that its average price would be about twelve cents per pound. Another suggested substituted is JUTE, (*Corchorus olitorius,*) an annual plant common in Lower Bengal, out of which a kind of sackcloth, generally used for gunny bags, has long been manufactured. Indeed, this cloth is what the Hindoos call *Tat*, and the Bengalese *Guni;* is almost universally used in Calcutta for the purposes for which canvas and matting are employed in Europe. The whole export of rice, paddy, wheat, pulses, sugar, saltpetre, as well as the pepper, coffee, and other foreign articles exported from Calcutta, are packed in bags or sacks made of this jute. At least six million gunny bags and one hundred thousand pieces of gunny cloth, all valued at $500,000, are annually exported from Calcutta. It is said that a *jute* may be easily produced in very large quantities in Eastern or Lower Bengal, and that a Scotch manufacturing firm has a process by which it can speedily be fitted for the cotton loom in a few hours.—Mixed with silk or wool, it is said that it may be advantageously used. Already in the London market, there had been an advance of twenty-five per cent. in the price of *jute.* The drawbacks are two—a suspicion that it is too brittle to be used by itself, and the fact that a year must pass ere a crop of it can be raised. This last would seem much against its adoption; for, by the time the crop of *jute* was raised, Lancashire may again have an abundance of American cotton. This probability prevents cotton cultivators in India from going largely into growing speculations for next year.

Increase of Farms in Upper Canada.

From a recent number of the Toronto (C.W.) *Globe*, we glean some facts relating to the agricultural resources and condition of Canada West, as furnished by the census of January, 1861.

According to the census of 1851, there were 3,702,788 acres of land under cultivation, and in 1860 there were 6,051,619—being an increase of 3,348,831 acres in ten years, or at the rate of 63¼ per cent. The number of persons occupying land in 1851 was 99,906, while in 1860 they had increased to 131,983, or at a ratio of 32 per cent. The ratio of the increase of the whole population for the same period is 46⅔ per cent. Some interesting items are given as to the number of small land holders, which shows that they have diminished considerably between the years 1851 and 1860. In the former year there were 12,417 persons who occupied 20 acres and under, and in the latter year there were but 7,099 of this class. In 1851 there were 10,143 who held between 20 and 50 acres, and in 1860, 26,630. The number who held from 50 to 100 acres increased from 47,427 to 64,819; and the number of those occupying over 200 acres increased from 3,404 to 5,027. These figures show that the labor of bringing land under cultivation went on in Upper Canada, during the years 1851 and 1860, in a much more rapid ratio than even the increase of population, the proportion being as 63½ to 46⅔. We also infer from this that Upper Canada is a more exclusively agricultural country now than it was ten years ago, in proportion to the extent of its population. Of the 6,051,619 acres under cultivation in 1860, 4,101,902 were under crops, 1,860,848 under pasture and 88,869 in orchards and gardens. Of lands under cultivation, therefore, in Upper Canada, the average proportion in crops was 67¾ per cent., and that in pasture 30¾ per cent., to stand against 61¾ of the former and 36¾ of the latter in 1850.

End of the Cotton Famine in England.

The statements contained in the following article are probably reliable; and if so, it is difficult to overrate their importance. For a period of more than forty years, during which time the manufacture of cotton grew, perhaps, a hundred fold in magnitude, Europe was mainly dependent upon a few of our Southern States for a supply of that important staple. The planters of those States were sure that they had a permanent monopoly in its production, and on that hypothesis they vauntingly proclaimed that *Cotton was King*, and thought that they had the world at their feet.

"The day was sure to arrive when the general inability to believe in a supply of cotton from other sources than the American Cotton States must give way before the facts. That day seems to be near at hand. At the end of last week the cargoes from India began to arrive. Upwards of ten thousand bales from Bombay came in during three days, and the quantity from that port actually at sea and at Liverpool was found to be about 897,000 bales; so that Mr. Villiers, whose promises were held to be rash when he spoke of 400,000 bales, appears to be fully justified in the hopefulness of his tone. The next disclosure was, that we have a prospect of a supply, in 1863, of 1,630,000 out of the 4,000,000, which is the largest quantity desired at the present rate of prices. This amount will be just double the quantity used per week for the last three months; and thus it would seem that the worst must be passed. At the recent high prices, the weekly average taken by the trade has been 15,278, and the promised supply, independent of any change in American affairs, will yield 31,345 bales per week. The sources of this supply are India, the Brazils, Egypt, Turkey, Greece, Italy, chance cargoes from America, and "other sources." These "other sources" are credited with only 25,000. Considering that the West Indies are included under this head, it is reasonable to hope that the supply may turn out to have been underrated even for the coming season. The reports from Jamaica are in the highest degree encouraging, both as to the encouraging condition of the growing crop and the rapid increase of the area devoted to cotton. In Guiana and Demerara the proprietors are setting heartily at work to procure the requisite labor, which may probably be supplied from the United States. Agricultural machinery, of the highest order, has been sent out to Porto Rico, which is expected to supply a large quantity, not less than the produce of two thousand acres, and the quality of the West India cotton is declared to be scarcely short of the highest rates of American. Already we see that, as time passes on, we find ourselves under the process of being weaned from our obstinate reliance on the slave States, and from month to month we shall learn to give up the irrational hope of any settlement in America which can restore the old state of affairs."—*English Paper.*

Jute as a Substitute for Cotton.

The city article of the London *Times* of September 12, says:

Excitement continues to increase in the market for the various products to which attention has been turned owing to the scarcity of cotton, and flax, hemp and jute have all experienced a further advance to-day. In jute the improvement has recently been extraordinary, the present quotation showing a rise of about £8 per ton, or more than twenty-five per cent. upon that current a week back. The movement appears to have been greatly accelerated to-day by a statement that Messrs. Thomson & Co., of Sleafield works, Dundee, have introduced a method for its treatment, which will enable it to be spun on cotton machinery, and in fact to fulfil in a great degree the purposes of that staple. The firm, it is said, have taken out a provisional patent for the treatment of all vegetable fibres, with a view to their manufacture into textile fabrics, but their attention has been more particularly directed to jute, with the object of meeting the present crisis. The rapidity with which the preparation can be effected is stated to be very great—the entire process requiring only a few hours, and the material produced is also such as will be applicable for admixture with wool and silk. Meanwhile, however, some inexperienced persons are disposed to doubt if it will not be found too brittle. At the same time there are a number of other people putting forth suggestions and claims, and a certain kind of Italian grass is spoken of as a desirable product. Should jute, however, prove really available to the extent anticipated by Messrs. Thompson, it will be likely to take the lead of all other articles, owing to the great abundance in which it can be obtained. About ten or fifteen years ago it was scarcely known as an article of commerce, but the quantity now annually exported from India is thought to be about 70,000 or 80,000 tons. It comes principally from the eastern parts of Bengal, and is very easy to cultivate. The first purpose to which it was applied on a large scale was the manufacture of gunny bags, and subsequently it has been introduced for the manufacture of carpets, which have been used in considerable quantities in America. A year would be required before a new crop could be supplied, but it could then be furnished to meet any possible demand.

Leached Ashes.

Prof. Buckland, the able editor of the *Canadian Agriculturist*, says:

"Wood ashes always contain a considerable amount of carbonate of potash, lime, etc., and are consequently very beneficial to such plants

as require large quantities of these alkalies, such as Indian corn, turnips, beets and potatoes. Leached ashes have lost much of the principal alkaline salts, and have been deprived of the greatest part of their most important soluble ingredients; still they must not be regarded as an unimportant fertilizer, and other matter which they contain is always more or less beneficial to the soil. Unless the land is well worked and contains sufficient organic matter, we should not consider ashes, whether leached or unleached, as alone adequate to the production of a good crop of wheat, turnips or corn."

There is something about old leached ashes that we do not understand, though we have given the subject considerable attention. We have seen instances where old leached ashes have had an excellent effect on wheat, while unleached ashes seemed to do no good. We have thought that perhaps the potash and soda which had been washed out, were replaced by ammonia and nitric acid from the atmosphere. The subject is one worthy of investigation. At all events, it is certain that leached ashes frequently have a very beneficial effect; and if the above hypothesis is true, the older they are the better.—*N. E. Farmer.*

STOCK REGISTER.

Cooking Food for Stock—Does it Pay?

Agriculturalists have their hobbies as well as other men, and ride them full as zealously, when once they are mounted; albeit they are slower—often too slow—in putting their feet into the stirrup.

Among the more modern theories which have attracted the attention of intelligent farmers, the economy of cooking food for stock has been prominent. Somewhat plausible, at first thought, it is natural that the more easily persuaded of those who are on the *qui vive* for the best methods should have readily adopted it; especially as it has, from time to time, received the endorsement of scientific men. Still, the question is not yet so fully established in the affirmative but that it may be discussed with advantage.

Men will be found who have made the experiment and are perfectly sure that they save full half of their feed by having it cooked; while others are equally sure that cooking is not the slightest advantage, if it does not, indeed, damage the quality of the meat. And this diversity of opinion must continue until a series of well-ordered experiments shall have been carefully made, touching every important circumstance bearing upon the question at issue. For the present, then, we can only state the general opinion of those by whom the trial has been most fairly made, and impartially examine into the scientific principles involved.

It is agreed among physiologists that the saliva performs an important office in the process of human digestion, and the habits of all ruminating animals may be adduced as evidence that the same importance attaches to its office in the economy of the lower animals.—Indeed, an examination of the food eaten by the horse will show that the woody and starchy portions have been progressed by the process of insalivation towards the gum and sugar into which they must be first transmuted before being assimilated into the bodily tissues. It would appear reasonable, therefore, that all food not thus insalivated must pass into the stomach in a condition not provided for by nature. But food which is quite dry cannot be swallowed until it is first moistened by the saliva, and it may well be argued that the slopping of food with water or steam will have the effect to supercede the action of the saliva and thus impede the work of digestion. In fact, it is just this course of reasoning which has induced physiologists to recommend that but little water, in any form, be taken with the food. Can any reason be shown why the same recommendation should not have application, in some degree, to the feeding of the lower animals?

But we are not arguing so much that the cooking of food is liable to result in deranged and partial digestion, as that the advantages of cooking are probably over-rated by those who imagine that they are very large gainers thereby. It is not enough that cooked food is not injurious: it should also be worth enough more to pay for the cost of apparatus, fuel and the extra labor involved. If it will not do this, it is clearly no gain to cook. On this point we quote the opinions of Mr. J. Burnet Lawes, and Prof. Simmonds, members of the Royal Agricultural Society of England, as expressed

in discussion at a meeting of the weekly Council, while we were in London, and subsequently reported in the Journal of the Society.

Mr. Lawes said: In this question there were two points to be considered. The first was, whether the labor and fuel expended in the cooking were not equivalent to the saving; and he thought that, taking the gross increase, there was a slight saving. The second was, whether the increase in the animal fed on cooked food was *as good* as that produced by uncooked food. On this point he was disposed to think that the quality of the meat was inferior when the food was cooked. If pigs were always fed on boiled swedes and meal, although they might increase very fast and be very profitable to the seller, still, it would be found out by degrees that the quality of the pork was bad. The butcher would ultimately refuse to buy, and would say that such pork, to use a common expression, "boiled away." All animals as they fattened had a certain amount of water displaced; that was to say, they contained less and less water; but if they were fed with boiled swedes and meal, the water would increase, as well as the fat.—Some time ago he fed one animal on steeped barley, and another on dry barley, with the view of testing the merits of the two systems of feeding. The animal which was fed on the steeped barley increased very fast, while the increase of the other war comparatively slow. They were both kiled; the loins and other parts were cooked in the establishment, and it turned out that there was much more waste in the former case than in the latter. The question whether the increase from cooked food or from dry food is the most economical, was one of considerable nicety, on which at that moment they had not sufficient facts to guide their opinion; but he would not, himself, expect to find any great difference in the results. Supposing a man saved 20 pounds sterling a year by the use of cooked food, and that he spent 10 pounds on labor, and 10 pounds more for coals in consequence, he would in reality be a loser by the cooking, because there would be less manure. Some years ago Mr. Warne's system of cooking was very extensively adopted, but it did not seem to maintain its ground.

Prof. Simmonds said: Mr. Lawes had spoken of the watery flesh of animals fed on cooked food, and there was scarcely any limit to the quantity of water that might enter the animal organism, if we gave food which contained a large quantity of water. Speaking as a pathologist, he believed that a great number of diseases among the lower animals arose from the bad state of the blood induced by excess of water and deficiency of nitrogenized (flesh-forming) matter in the food. The practical farmer knew that, if in the lambing season, he gave his ewes too many white turnips, or other green food, which had grown rapidly and contained a large amount of water, it would lead to disease and loss; whereas, if he put them on dry food, containing, weight for weight, a large proportion of nitrogenized matter, a good quality of blood was produced and the health of the animal preserved. Admitting that cooked food had the effect of accumulating weight, to say nothing about flesh, in a certain space of time, he was inclined to think that this arose from the facility which it gave for the digestion of the food by anticipating a part of the process commonly carried on by the action of the gastric juice. But it was questionable policy giving to an animal, and especially a ruminant animal, cooked food, for thus they might, to a considerable extent, supercede mastication; if so, they would supercede insalivation, and thus interfere with one of the chief processes of nature. The action of the saliva was first to convert the amylaceous parts of the food (or starch) into sugar and gummy matter. A further provision was made in the ruminant animal for stirring up, if he might so express it, the food; and a chemical change took place in its character before it passed into the true digestive stomach. There was a re-mastication and a re-insalivation; and, inasmuch as the secretions coming from the rumen (first coat of the complex stomach) were very analogous to those with which the food was mixed in the mouth, it not only remaized mixed with saliva a much

longer time, but was mixed with a much greater quantity of that or a like substance. If, then, by the use of cooked food they dispensed with part of the operations of nature, and sent the food quicker into the intestinal canal, they would dispense with the process of re-mastication and re-insalivation; and he could understand why, although a large increase might take place in bulk, the animal might become bad. The digestive process depends materially upon the condition of the food; it is even possible, by giving cooked food, or food which was physically in the same condition with regard to fineness and moisture, to render animals non-ruminative which are naturally ruminants; that is to say we may give them food that would be retained for a short time in the rumen, pass quickly into the true digestive stomach and become subject to the action of the true digestion without undergoing re-mastication. We would thus interfere at once with the law of nature; if we cooked food at all, we ought not before cooking to reduce it too fine. If the straw be cut into lengths of from 4 to 6 inches, a cooking process may be set up so as to convert the amylaceous parts into sugar, without interfering with the functions of the rumen; but such food would be re-masticated. Upon the whole, he was certainly not in favor of the so-called system of cooking food, either for the preservation of the health of the animal, or for the promotion of the process of digestion.

A Two-story Milking Stool.

"Something new under the sun," in the shape of a milking-stool for kicking and unruly cows, is described by a correspondent of the Iowa *Homestead*. The stool can be made of inch boards, and has many advantages over the old-fashioned one. First procure a piece of board of sufficient size to accommodate the milker, and have in addition, room for the milk-pail. This may be put on legs of about eight inches in height. Then upon this, erect another seat or stool, covering half the space of the bottom one, for the milker to sit, thereby giving him a chanee in front to let the pail remain firm and steady, not liable to get kicked over, and by being up from the ground kept free from dirt and mud, and so close to the udder as to prevent loss from milking over, &c. If a cow is in the habit of kicking, the milker by using a stool of this description, can have both hands to prevent her heels from coming in contact with the pail which sets firm upon the front part of the stool, steadied by his knees. He could in a short time effectually break a cow of the habit of kicking while being milked.

Tobacco Juice for Sheep!

Mr. Editor:—I have read your work very attentively, and like it much. But I have not as yet read one word about *sick sheep*. Perhaps your subscribers never have any that are sick, but I do.

Once in a while I have one that will lie down, turn on its side, then get up and stretch itself out as long as possible, and then cramp itself up into a heap, bringing its feet close together under it, then lie down again.

I have others that try to get up in the morning, after lying all night, and cannot, the use of their limbs being gone. Their ears lop, their head drops to the ground, and they won't eat anything. I had one lie two days in that way. I did not expect it to live. But, sir, in both cases, a few swallows of strong tobacco juice cured them at once, and the same sheep have not been sick since. This was last winter. I would be very glad to hear from anybody on these subjects, as I am in the sheep raising businnss, and need all the information I can get. Jas. Moore.

Plainfield, OCt. 17, 1862.

Remarks.—We are obliged to friend Moore for calling the attention of readers to the care, diseases, &c., of sheep. The late large increase in the demand for wool has turned the enterprize of our farmers into this channel, and it has been our desire also, that those who are most experienced in the business give their neighbors the benefit of their knowledge.—Ed.

Quantity of Food for Oxen.—Frequent observations have shown that an ox will consume two per cent. of his weight of hay per day to maintain his condition. If put to moderate labor, an increase of this quantity to three per cent. will enable him to perform his work and still maintain his flesh. If he is to be fatted, he requires four and a half per cent. daily in nutritious food.

Corn and Cob Meal, Fall Pasturing Meadow Land, &c.

MR. EDITOR:—With your permission, I will give my experience in relation to feeding corn and cob meal, and fall pasturing meadow land.

I have found corn and cob meal to be excellent feed for all kinds of stock, if ground *fine* when *perfectly dry*, and fed in small quantities in the commencement. If not ground fine, it is apt to produce an irritation of the bowels, and if not dry, it is liable to heat and sour, more so than corn ground without the cob.

I have found it beneficial to pasture meadow land in the fall, especially when the soil is of a light vegetable mold: provided, that the stock are not turned in, until the grass gets a good start, are not allowed to remain when the ground is wet and soft, nor to graze too close.

I have noticed that grass on light soil is apt to remain in small stools—not spreading over all the ground, and that these stools are quite liable to be thrown out by the frost. Being fed off, causes them to tiller, and spread over the ground, and the treading of the cattle, packs the soil, making it firmer, so that the grass is not so liable to injury from frost.

YOUNG FARMER.

Gives a Remedy for Bark Lice.

FRIEND HOYT:—I have read the FARMER with interest the past three years, and have profited some by the hints and suggestions that I find in them, and can cheerfully recommend it to every farmer in the State.

I have searched in the columns of the FARMER for a remedy against the Bark Louse on the apple tree, but have not seen any that is so cheap and effectual as this: Sow good, dry ashes through the tops of the trees after a shower of rain, while they are wet. This can be performed with a very little labor, and it improves the tree wonderfully.

P. PALMITER.

TO MAKE SOWS OWN THEIR YOUNG.—A correspondent of the Boston *Cultivator* writes that he had a sow which would not own her pigs, and that after trying various things without effect, he gave her a *pint of rum*, which had the desired result. The rum was put into the swill, though he does not tell of what the swill consisted, but says, "she drank it like any old toper, and was perfectly quiet for three or four hours afterward." The Maine *Farmer* says the same prescription will prevent sows from eating their young.

THE POULTERER.

Fecundity of Hens.

It would seem a providential arrangement in behalf of man that the domestic hen should be endowed with so great fecundity. The ordinary praductiveness of a single hen is astonishing. Instances are recofded of hens laying over two hundred eggs annually, while probably one hundred and twenty would be a fair average. Undoubtedly much depends on circumstances as to the productiveness of hens.—Climate has great influence in this subject, and the lodging, food, and the attention which is bestowed upon these animals have more or less effect in promoting their fecundity.

It is asserted by Buffon that a hen well fed and attended, will produce upward of one hundred and fifty eggs in a year, besides two broods of chickens. We find statements recorded in our agricultural journals of several instances of extraordinary products of hens, which will enable us to form some judgment on the subject.

The editor of the Massachusetts *Ploughman* says from eighty-three hens seven thousand two hundred eggs were obtained, which would give to each hen eighty-four eggs for the year. A remarkable instance of fecundity in the hen is related by a correspondent: Three pullets of the Poland breed, hatched in June, commenced laying in December following, and, from that to the next December, laid five hundred and fifty-four eggs, averaging one hundred and eighty-five to each hen.

It seems ever to have been an object of great importance in an economical point of view to secure the laying of hens during those periods of the year when, if left to themselves, they are indisposed to deposit their eggs. Old hens cannot be depended on for eggs in winter, the very time we want them most. As pullets do not moult the first year, they commence laying at an earlier period than the old hens; and it is possible so to arrange as to have eggs throughout the winter, as well as spring and summer.

Some hens are ascertained to lay at longer intervals than others: some will lay one egg in three days; some every other day; others every day; and we have heard of one that laid two eggs in one day! The act of laying is not voluntary on the part of the hen, but is dependent upon her age, constitution, and diet. If she be young, healthy, and well fed, lay she must; if she is old, and half fed, lay she cannot. All that is left to her choice is where she should deposit her egg.

C. N. BEMENT.

THE BEE KEEPER.

Important Facts in relation to Bee-Keeping.—Letter of Dr. Kirtland.

PROF. HOYT:—In compliance with your request I herewith communicate some suggestions that may be of benefit to the readers of your valuable Journal, many of whom are interesting themselves in the *science* of Bee Culture. Intending this as but an introduction to a series of articles on this subject (should they be acceptable) I will not launch out too deeply at first, but will give a few extracts from a communication from the pen of the celebrated Dr. J. P. Kirtland, of Cleveland, O., in response to a letter of inquiry from me.

Speaking of the management of his bees in early spring, he says he furnishes them with unbolted rye flour "placed in shallow boxes, with a little straw for them to alight upon—immense quantities of which they carry into their hives as a substitute for pollen," which "stimulates them to a rapid increase of brood."

This rapid breeding in the spring, that the stock may be kept strong, being of *primary* importance to the Apiarist, is mentioned first; then come the answers to my questions.

1*st Query.*—What is your opinion with regard to the capacity of our country for producing honey.

Answer.—As a whole our country is peculiarly fitted for the production of honey, different sections, however, differ greatly in this respect. My apiary in Laporte Co., Ind., yields *three* times as much as the one I cultivate here. Soil, climate, character of the forests and of the cultivated crops exert great influence. I know nothing of your vicinity, having never been nearer than Madison, but should infer that it was rather favorable for producing honey and pollen. No state in the Union has ever had its capacity for producing honey employed to *one-third* its extent, nor has Bee cultivation here attained that perfection which it has in certain parts of Europe. Taking the community at large, yet as both an art and a science, in the hands of a few, here it is greatly in the advance of Europe. The introduction of Mr. Langstroth's movable comb system is working a revolution which will, in a few years, increase the income from our apiaries to several millions of dollars in the State of Ohio. Europeans seem not to comprehend these improvements. The capital now invested in bees in this State exceeds *two millions* of dollars, and is rapidly increasing.

The introduction of the Italian bee, and of Mr. Twining's new method of controlling and managing bees are aiding the advancement of Mr. Langstroth's discoveries.

In conclusion I would say that I think that honey will, in a few years, essentially interfere with the use of sugar in the United States, as it did in Great Britain down to the time of Queen Elizabeth.

2*d Querg.*—Have you any practical knowledge of its use for culinary purposes?

Answer.—I have never tested its adaptation as a direct substitute for sugar in various culinary processes, but do not suppose it can be very universally used for such purposes, yet it obviates the necessity of preparing sweetmeats in a family, to a great extent.

It forms the article of sweetening in the healthful Kennett's Ale, and I have little doubt it would be preferable to liquorice in the preparation of London Porter and all malt liquors.

Honey as an article of food is nutritious and healthful, if taken separate from comb, but no species of animal life can digest bee-comb, except the larva of the bee moth. The French are beginning to understand this matter, and now nearly all the honey among them is promptly strained, canned and sealed, while fresh and retaining its flavor. We shall do the same as we grow wiser.

3*d Query.*—What amount of honey do you think a strong stock of bees and their increase should produce, &c.?

Answer.—There are too many contingencies involved to allow a definite answer. Mr. Crowfoot's was certainly an extraordinary case.

5*th Query.*—Do you use the Langstroth hive?

Answer.—I do use the recently simplified and improved kind which he has just introduced. I look upon it as *a perfect hive.* Ransom & Cobb, of this city, have commenced the

manufacture of it on an extensive scale, and afford it to persons having the right to its use, for $1.50 each, which ordinary mechanics cannot do. Besides, it is not only better than any other patent hive, but it is cheaper. They propose to furnish the whole Union. These late improvements are important in many particulars. It would be well for your bee cultivators to communicate with Ransom & Cobb in relation to them.

6th Query.—What do you think of the merits of his system of bee culture?

Answer.—It is superior to any yet devised, and is working an important revolution in the apiarian's pursuits. It has already placed us (Americans) in the advance of European bee culturists. If Dzeiron and other Germans could visit Sturtevant's, or my apiary, and see our modes of manipulating and cultivating the bee, they would say as the Ethiopean Queen did of old, when she visited Solomon. We follow out Langstroth's system in detail.

7th Query.—How many hives do you keep, and to what extent are you introducing the Italian bee?

Answer.—I have 45 stocks at my home apiary, all Italian; and perhaps 50 or 60 stocks in in Laporte Co., Ind., all black bees. The latter I may change this season, if I recover my health. Fifty is my limit for my home apiary, where half our land is water, and the remainder very poor for bee feeding. 200 is my maximum for Indiana, where the fields are prolific in bee feed.

Your 8th Query you will find answered in the proceedings of our late Bee Convention, which are reported in the Ohio *Farmer*, a copy of which I have sent to you. My health is bad and I write with pain and difficulty.

J. P. KIRTLAND.

CLEVELAND, Ohio.

P. S. I have wintered 45 stocks without the loss of one—one queen died. My Indiana stocks I have not heard from.

A new system of quieting and handling bees has been introduced by Mr. Twining, which promises to be one of the greatest improvements, in this line, of the age. It quiets and soothes the workers, and does not terrify them as does tobacco smoke. The secret is known to Mr. Langstroth and myself, who are to test it and give the public our views as to its merits.

J. P. K.

The Doctor not residing in a good honey-producing section, is not aware of how well bees are doing in the hands of many in our more favored localities; nor does it appear to me that he is possessed of *all* the facts in regard to the use of honey for culinary purposes, some facts concerning which I will give in a future article.

J. M. STEBBINS.

APPLETON, Wis., Nov. 10, 1862.

Chinese Mode of Taking Honey.

Fortune gives the following account of the mode of taking honey in China:

During my sojourn in this place, I had an opportunity of witnessing a novel mode of taking honey from beehives. The Chinese hive is a very rude affair, and looks very different to what we are accustomed to use in England; yet, I suspect, were the bees consulted in this matter, they would prefer the Chinese one to ours. It consists of a rough box, sometimes square, and sometimes cylindrical, with a movable top and bottom. When the bees are put into a hive of this description, it is rarely placed on or near the ground, as with us, but is raised eight or ten feet, and generally fixed under the projecting roof of a house or outbuilding. No doubt the Chinese have remarked the partiality which the insects have for places of this kind, when they choose quarters for themselves, and have taken a lesson from circumstances. My landlord, who had a number of hives, having determined one day to take some honey from two of them, a half-witted priest, who was famous for his prowess in such matters, was sent for to perform the operation. The man, in addition to his priestly duties, had charge of the buffaloes which were kept on the farm attached to the temple. He came round in high glee, evidently considering his qualifications of no ordinary kind for the operation he was about to perform. Curious to witness his method of proceeding with the business, I left some work with which I was busy, and followed him and other priests and servants of the establishment to the place where the hives were fixed. The form of the hives, in this instance, was cylindrical; each was about three feet in height, and rather wider at the bottom than the top. When we reached the spot where the hives were placed, our operator jumped upon a table, placed there for the purpose, and gently lifted down one of the hives, placing it on its side on the table. He then took the movable top off, and the honey-comb with which the hive was quite full, was exposed to our view. In the mean-

time, an old priest having brought a large basin, and everything being ready, our friend commenced to cut out the honey-comb with a knife made apparently for the purpose, having the handle almost at right angles with the blade. Having taken out about one-third of the contents of the hive, the top was put on again, and the hive was elevated to its former position. The same operation was repeated with the second hive, and in a manner quite satisfactory.

But it may be asked, "*Where are the bees all this time?*" and this is the most curious part of my story. They had not been killed by the fumes of brimstone, for it is contrary to the doctrines of the Budhist creed to take away animal life; nor had they been stupefied with fungus, as is sometimes done at home—but they were flying about above our heads in great numbers, and yet, although we were not protected in the slightest degree, not one of us was stung; and this was the more remarkable, as the bodies of the operators and servants were completely naked from the middle upwards. The charm was a simple one; it lay in a few dry stems and leaves of a species of Artemisia (wormwood), which grows wild on these hills, and which is largely used to drive that pest, the mosquito, out of the dwellings of the people. This plant is cut early in summer, sundried, then twisted into bands, and it is ready for use. At the commencement of the operation which I am describing, one end of the substance was ignited, and kept burning slowly as the work went on. The poor bees did not seem to know what to make of it. They were perfectly good tempered, and kept hovering about our heads, but being apparently quite incapable of doing us the slightest injury. When the hives were again properly fixed in their places, the charm was put out, and my host and his servants carried off the honey in triumph.

The Langstroth Hive.

[We have several answers to the question asked, sometime since relative to Langstroth Hive, but the publication of one will, of course suffice. The following is from Mr. R. C. Otis, joint proprietor with Mr. L.—Ed.]

Prof. J. W. Hoyt—*Dear Sir:* In the August No. of the Farmer, I notice an inquiry concerning the Langstroth Movable Comb Bee-Hive. Having been absent from the State, this matter has not received the attention *here* that it deserves.

Mr. J. M. Stebbins, of Appleton, has the exclusive agency for this State. He will fill all orders for hives, and sell individual, Town, and County Rights. R. C. Otis.

Kenosha, Nov. 13th, 1862.

THE HORTICULTURIST.

A. G. HANFORD, : : CORRESPONDING EDITOR.

Two Fine Autumn Pears.

Flemish Beauty.—A most admirable pear for Wisconsin. The tree is a fine grower, extremely hardy, bears young and is very productive.

Fruit large, pale yellowish green with a reddish brown cheek and slightly russeted.

Flesh, yellowish white, a little coarse, melting, juicy, sugary, rich, aromatic and delicious.

It should be gathered early and ripened in the house, as, if suffered to remain on the tree too long it is apt to soften at the core and become flavorless.

The Flemish Beauty should only be grown on the pear stock; occasionally but not usually, it succeeds on the quince.

Robert Douglas, of Waukegan, has a Flemish Beauty tree planted in the spring of 1852, then two years from the bud. In 1860 it produced twelve baskets which sold for $30. In 1861 fifteen baskets for which he realized again $30. This year the tree was injured by a tornado, nearly half its top being broken off; three baskets of fruit were, however, gathered from the lower limbs, large and fine, 50 pears filling a basket. The tree is now full of promise for next year.

Dr. Grant, near Newburgh, gathered 400 specimens from a tree of the Flemish Beauty, 8 years planted, which he sold for $80.

White Doyenne—*Virgalieu of N. Y., Butler Pear of Penn., St. Michael of Boston.*—The many synonymes it bears are good evidence of the very universal esteem in which this fine old variety is held. The tree is a fair grower, hardy and productive. Fruit, medium or above. Pale yellow with small dots, often with a bright red cheek. Flesh, white, fine grained, buttery, melting, very rich and delicious, ripe in Oct. Does equally well on both pear and quince, the fruit needs thinning and the tree close pruning and good culture.

In some localities the White Doyenne is liable to scab and crack, this has been the case of late about Milwaukee, it did well with us

at Waukesha, and succeeds very generally throughout the State. No fruit garden or orchard should be without at least one tree, and where it is at home there is no more profitable market variety.

Ellwanger & Barry, of Rochester, have a plantation of Dwarf trees of the White Doyenne which gave the 4th year from planting at the rate of $500 per acre, and about the same the 6th year.

C. L. Hoag, of Lockport, N. Y., set out in 1853, fifty standard White Doyenne trees and gave them good culture with hoed crops, and the 4th year they yielded four barrels of fruit. He has two old trees which have yielded 4 or 5 bbls. annually.

J. J. Thomas, says, in Western New York, single trees of the White Doyenne pear have often afforded a return of $20 or more after being sent hundreds of miles to market.

We know parties in Wisconsin who would as soon grow a bushel of pears as of apples, the pear having proved with them quite as hardy and much more profitable. Few persons, however, will give the attention and care necessary to attain the best results, and all localities are not equally well suited for pear culture.

In suitable soil, with a judicious selection of varieties and skillful culture, it will be safe to expect as much net profit from an acre planted with pears as from an 80 acre farm in ordinary crops. A. G. HANFORD.

COLUMBUS, Ohio.

The Great Orchards of California.

According to the editor of the California *Farmer*, the orchards of Briggs & Haskell, at Marysville, are on a broad scale. We extract the following from his account:

It would be impossible for a stranger to form any possible conception of the extent of these orchards, the immense crop daily gathered, or the wonderful producing power of the trees. Strange as it may appear, with all the disastrous effects of the floods, which swept away and destroyed thousands of trees, burying, also, great numbers, and having many buried by drift-wood, of which more than a thousand cords swept over and upon them, and another thousand cords of peach-tree fire-wood will be made from the broken and killed trees; yet, with all this destruction, the crops of these orchards will far exceed any former crop. And this, too, with another singular fact, that with all the energy and attention possible, and with about seventy men, the fruit often ripens faster than it can be gathered, so much so that more than ten thousand bushels will be lost in these two orchards alone. In connection with these orchards, there is the Oroville orchard, where about thirty men are gathering and shipping, in like enormous quantities.

That some idea may be formed of the magnitude of the business of these fruit orchards, there was sent from these orchards, the second week in August, from sixteen to twenty tons, or from 30,000 to 40,000 pounds a day, of peaches, apricots, and plums; of which about two-thirds were shipped to Sacramento and San Francisco.

We spent some time in going through these orchards, and noting the effect of the floods upon the trees. In many places in these orchards, the drift-sand was piled up from two to four feet—but where the wash was only sand, no injury resulted to the trees, they were vigorous and healthy. But where the deposit was a soft clay, or mixed deposit, the trees were killed. In the entire orchard, among the peaches, nectarines, pears, and apples, where the deposit was sand alone, the trees were loaded with splendid fruit—the nectarines and peaches, enough to load several clipper ships, the trees breaking down with the fruit, and the ground covered with the finest nectarines we ever saw.

Horticulture and the War.

It is sad to reflect on the enormous losses to horticulture and agriculture arising from the rebellion. We believe no class, taken collectively, endeavored to avert the strife more energetically than ours; and, though suffering in common with others, have less to answer for. From our position, in correspondence with so many different sources, we can say of our own knowledge that up to the actual breaking out of the war, with few exceptions, the great body of Southern horticulturalists were opposed to secession, not but they had their differing views as to the abstract justice of the doctrine, or as to the advantages which a separate independence might or might not bring with it, but solely because they saw that the assertion of the doctrine would inevitably lead to a bloody and disastrous struggle, which would render any ultimate success by far too dearly bought. It is pleasant to dwell on this power of horticulture to restrain rash passion; and it should be a strong inducement with all haters of war to extend horticultural taste wherever practicable—*Gardners' Monthly.*

Delaware Grape.

No fruit introduced in many years past has awakened so much interest as the Delaware Grape.

It has been cultivated in the neighborhood of Delaware, Ohio, for thirty years or more, but it is only ten or twelve years since it was much disseminated.

It is claimed that the original vine was brought from New Jersey.

So unlike, so superior to our native varieties, it was for a time believed to be a foreigner, but is now generally received as an American seedling.

The above cut is from a photograph of a well grown bunch.

We hope the introduction of such fine early and hardy varieties as the Delaware, Hartford Prolific and Concord will enable our readers to enjoy well ripened and delicious grapes instead of the half ripe sour clusters we generally have to put up with in this climate.

In some localities, the Isabella and Catawba—both excellent varieties — succeed well; but, as a general rule, they are too tender to be entirely reliable, and we have need of something more hardy. The grapes above named are all of this character; in addition to which the Delaware particularly is the most delicate and delicious grape of which we have any knowledge in this or any other country.—Messrs. Bateham, Hanford & Co., Columbus, Ohio, are skillful cultivators of them and are prepared to fill orders to the entire satisfaction of purchases. Let every farmer secure at least a few cuttings, and so provide himself and family with one of the greatest luxuries in the fruit world.

Winter Management of Newly Planted and Dwarf Trees.

All trees planted last spring and this autumn should have a mound of earth thrown up around the stem, twelve or fifteen inches high, and a mulch of coarse straw manure, three or four inches thick, spread for the space of

four or five feet in diameter, on the surface, over the roots. The mound of earth will serve to support the tree as well as to keep off the mice.

The mulch will afford protection to the newly formed tender roots, while the soluble portion is carried by the winter and spring rains into the soil to nourish the tree. Dwarf trees especially need this treatment whether newly planted or not; the neglect of it is often the cause of loss and disappointment.

A. G. HANFORD.

COLUMBUS, O., Nov., 1862.

MECHANICAL & COMMERCIAL.

Improvements in Farm Machinery.

It is a feature of the first importance in the agriculture of this as well as other countries, that the improvements in agricultural machinery are receiving so much attention, and accomplishing so much of real practical benefit to the farmers. This fact alone has done much to revolutionize the operations upon all large farms, and to some extent to change the system and practices among small cultivators.

Every year brings with it new inventions, numerous and pretentious; and we believe, also, that nearly every year gives to the public some decisive advance towards the perfection of agricultural machinery. It would be too much to expect, under the high pressure demand for improved machines, that all inventions will prove valuable; and, on the contrary, it is doubtless true that nine-tenths of those offered to the public are failures; but out of this great wealth of mind and skill, something must be evolved which will simplify agricultural operations, and benefit the farmer.

Taking our observations at short intervals, or by single years, the changes may not appear to possess very great significance; but when we extend them to a decade or to a score of years, the results achieved are astonishing, and fill us with admiration. When we revert to the exhibitions which it was our practice to attend twenty years ago, of the State and County Agricultural Societies, and compare the implements and machines then in use with those now offered for inspection on similar occasions, we are filled with admiration for the genius and skill of American mechanics, and prompted to congratulate the farmers of the United States upon the advantages thus placed within their reach.

This subject has been brought forcibly to our notice on reading, in the *Prairie Farmer*, a sketch of the exhibition of agricultural machines and implements at Dixon, Illinois, under the auspices of the Illinois State Agricultural Society. That exhibition was a great and proud triumph for the cause of American mechanical skill and for American agriculture, and proved conclusively to our mind the steady and even rapid progress of the farmers in this country towards the dignity of labor, and the triumph of mind over muscle.

Events are fast proving the practicability of applying science, in the form of skilfully constructed machinery, to the practical work of the farm. Henceforth, in farming as in other pursuits, mind shall be worth more than muscle, and the intelligent, educated farmer enabled to employ his powers to better profit and greater advantage, in the direction of his business, than in the mere manual drudgery of routine work, which the machines of the present day will perform vastly quicker, cheaper, and more successfully than it can be done by hand labor.

The West is peculiarly the field for the introduction and use of agricultural machinery.—Farming there is done on a broader scale than in the Atlantic States, and the nature of the soil, as well as the face of the country, specially invites this system of agriculture.—*Ex.*

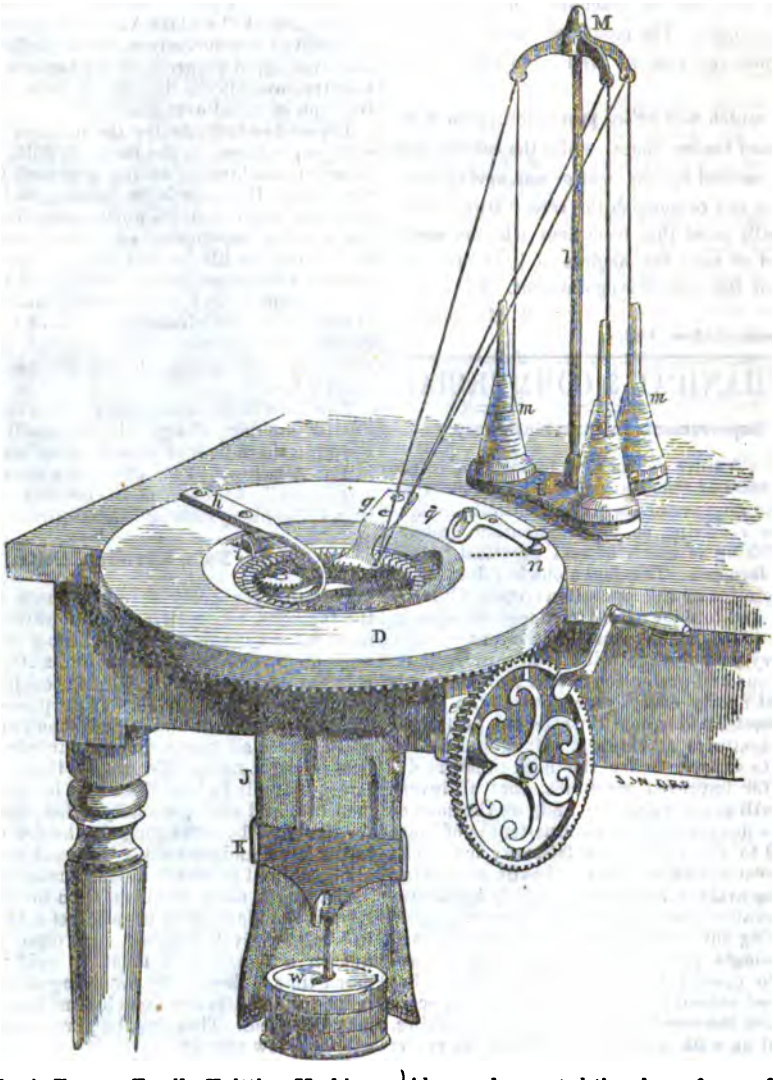
Nails, Nuts, Screws and Bolts.

It is well for every farmer to have at hand the facilities for repairing. In addition to the more common tools, he should keep a supply of nails of different sizes, bolts and nuts. Common cut nails are too brittle for repairing implements, or for other similar purposes. Buy only the very best, and anneal them, and they will answer all the ordinary purposes of the best wrought nails. To anneal them, all that is necessary is to heat them red hot in a common fire, and cool gradually. Let them cool, for instance, by remaining in the fire while it burns down and goes out. One such nail, well clinched, will be worth a dozen unannealed.

Nothing is more common than for a farmer to visit the blacksmith shop to get a broken or lost bolt or rivet inserted, and often a single nut on a bolt. This must be paid for, and much time is lost. By providing a supply of bolts, nuts and rivets, much time and trouble may be saved. They may be purchased wholesale at a low rate.

These should be kept in shallow boxes, with compartments made for the purpose, furnished with a bow handle for convenience in carrying them. One box, with half a dozen divisions, may be appropriated to nails of different sizes; and another, with as many compartments, to screws, bolts, rivets, &c.

Every farmer should keep on hand a supply of copper wire, and small pieces of sheet copper, or copper straps. Copper wire is better than annealed iron wire; it is almost as flexible as twine, and may be bent and twisted as desired, and it will not rust. Copper straps, nailed across or around a fracture or split in any wooden article, will strengthen it in a thorough manner.



Aiken's Famous Family Knitting Machine.

When Queen Elizabeth came to the throne of England, three hundred years ago, such a thing as a knit stocking had never been heard of in all her realm. Nor, indeed, have we any reliable authority to suppose that anything of the sort had ever been produced anywhere in the world. But the tense, unyielding hose manufactured upon the loom were an uncomfortable, unsatisfactory thing, and so some ingenious mind—it is not known whose—conceived the idea, and executed the plan, of manufacturing them with the use of needles, in such manner that they should be both seamless and very elastic. The first pair knit were presented to Her Majesty, in the third year of her reign, who was so delighted with them that she would never again consent to wear the stocking of the old style.

As the result of the royal example and of the remarkable superiority of this wonderful manufacture, knitting became at once immensely popular, so that high-born dames and

royal ladies emulated each other in princely halls and gilded palaces.

But the process of knitting with the fingers was slow and tedious; and so the brain of one William Lee, of Woodborough, England, about thirty years after the original invention of knitting, stimulated, it is said, by a strong desire to supercede the needles of a beautiful young girl, whose passion for knitting appeared more all-absorbing than her coveted love for him, contrived a machine, which was so remarkable for its achievements as to attract the attention, first of Queen Elizabeth, then of her successor, King George, and finally—when both of these English sovereigns failed to give it the encouragement it deserved, through fear of interfering with the employment of the poor—the patronage of Henry the Fourth, King of France.

Lee had hardly established himself, however, at Rouen ere his royal friend and patron met his untimely death, and the disappointed, but never discouraged, inventor returned to England and established a factory at Nottinghamshire, which, to this day, has been and is the great seat of hosiery manufacture in Europe.

For more than one hundred and fifty years, Lee's machine 'reigned without a rival,' until in 1756 an important improvement was made by Jedediah Strutt, of Derby, with a view to render the machine less cumbrous and difficult to operate, and, if possible to adapt it to other than muscular power. His efforts were only partially successful, however, and the world was left without a power machine until the year 1832, when Timothy Bailey, of Albany, New York, after many months of fruitless effort, at last succeeded in perfecting his plans and giving to America and the world a power machine of large capacity. Still, it was a clumsy thing, very expensive and was only designed to knit the flat web, which must subsequently be sewed together by hand.

About a quarter of a century ago circular looms were introduced into this country from Belgium and France; since which time there have been several American improvements, all finding their climax in the wonderfully simple, cheap and capable machine of J. B. Aiken, of Franklin, N. H. As a factory machine this is unquestionably the most popular one now in existence, and every day seems to be adding to the high esteem in which it is held. Over $2,000,000 worth of knit fabrics are now annually manufactured upon it in this country; while in the various countries of Europe it is rapidly growing into favor with the most enterprising manufacturers.

But all this remarkable success did not satisfy the ambition of Mr. Aiken. He saw that his machine was enabling manufacturers with capital to amass great fortunes, while the people—the million—were comparatively little benefitted. A machine which should come within the slender means of even a very poor family, and thus diffuse its blessings as the Sewing Machine has done, was needed. The simple and effective "circular" machine of which the above cut is an illustration, was the result of this worthy and persistent endeavor. So simple and durable in all its parts that there is scarcely a possibility of its getting out of order; so rapid in its working that when operated by the hand of a child it will knit over four thousand stitches in a minute—if by the foot five thousand—or if by steam, to which it may be adapted, sixty thousand!—so small in compass that it may be packed in a box less than a foot cubic; and, withal, so cheap that it can easily be made to pay for itself in one winter, it can hardly fail of a very great demand even in war times. Indeed the harder the times the greater the need, on the part of the poorer families at least—and nearly all are feeling pretty poor about now—of everything which may come as a help in securing the means of support.

Every year the American people send five millions of dollars to other countries for the single item of knit goods, which ought to be manufactured at home There is, therefore, no danger but that the demand will insure good paying prices—especially as the war must very materially add to the amount of knit hosiery required for American consumption.

CAPABILITIES OF THE MACHINE.

The machine is adapted to the manufacture of stockings of every size and texture, undershirts, drawers, neck comforts, table covers, head dresses, cravats, caps, purses, rigolets and shawls, sontags, tidies, ladies' opera caps, undersleeves, nubias, scarfs, suspenders, &c.

PRICE—WAY TO GET IT WITHOUT MONEY!

The price, owing to taxation, &c., has been increased $5 within the last month or two, and is now fifty dollars, including oil-can, wrench, screw driver, 20 extra needles, skein holders, yarn winder, and a book of instruction. But even this, for a machine adapted to so many uses, and with which so much may be made by even the younger members of the family in a short time, is cheap; and we recommend to all families dependent upon their fingers for support, to all Soldiers' Aid Societies, and to all others, who, in these trying times desire to contribute to the public good by every species of honorable economy, to send to Branson & Elliot, Gen. Agents, No. 120 Lake St., Chicago, and get a machine.

But even $50, small as the amount is, will not be found in times like these 'growing on every bush,' and we have accordingly offered the machine to every enterprising friend of the FARMER who will furnish us with a club of 150 subscribers at one dollar each. If there are any young men whose mothers or sisters are dependent upon their hands for support, or any middle-aged men whose wives would cordially welcome so valuable a labor-saver as the Knitting Machine, now is their time to do two things at once—secure a handsome present for those most dear, and at the same time extend the circulation of a worthy journal devoted to the best material and social interests of the people of the Northwest.

THE PRIZE SEWING MACHINES.—As will be seen by the Prospectus on cover, we offer several Sewing Machines as prizes for large lists of subscribers next year. In the next number we shall publish illustrations of the machines in question.

SCIENCE, ART, STATISTICS.

American Musical Instruments.—The Prize Melodeon.

First in the character of her utilitarian inventions, America might have rested on her laurels won in this department, at least for a number of years yet. But the universal Yankee Genius could not be thus content: it must likewise rank first in the higher domain of Art and in the arts akin.

It has already been seen that she was more than a match for the Europern nations in the departments of Painting and Sculpture, at the Great Exhibition, and that she also excelled in the construction of some of the most important musical instruments—bearing off the Great Medal for the best piano, &c. But it is not alone in the superior *quality* of her musical instruments that America ranks first; she is also first among the nations in the extensive *use* of them by her people—in the number manufactured and sold.

Thus of pianos, alone, the number manufactured and sold amounts to a sum no less than $15,000,000 annually: other instruments in like proportion.

THE MELODEON is a more modern instrument than the piano; and being better adaptad to some kinds of music—especially sacred music—and withal much less expensive, it is growing rapidly in favor as a substitute for the more costly organ in our country churches, and in thousands of our families. Externally resembling the piano, the notes are determined by touching the keys of a finger-board. Each key lifting a valve, allows a current of air from a bellows, worked meanwhile by the foot on a pedal, to agitate the corresponding one of a series of metallic free reeds. The compass is 5 to 7 octaves.

Great improvements have been made within the few years past in the style and musical value of the melodeon, so that it now has a "prompt" sounding and flute-like quality of tone. In 1859, 22,000 instruments of this kind were manufactured in the United States, and the demand is constantly increasing.

The most extensive and and the most popular makers in the world are the Messrs Geo. A. Prince & Co., of Buffalo, N. Y. About 30,000 of their melodeons are already in use and their immense establishment is constantly taxed to its utmost to supply the demand. The greatest care is taken in its thirty-nine different departments, and none but the most skillful and experienced workmen are employed.

SPLENDID PRIZE MELODEON.

The cut herewith published represents their splendid Double Reed Melodeon. It is constructed in piano style, with elegant rosewood case, has two sets of "reeds," with one keyboard or manual, contains four stops or registers, and is well adapted for the parlor or the church.

This elegant instrument is offered by us for the largest list of dollar subscribers not less than 350. As it cannot be bought for less than $150.00, it will be seen that our offer is an exceedingly liberal one.

Who will have the Prize Melodeon?

Materials for Paper.

Flax holds the first place among fibres which from their strength, flexibility, and other practical qualities, are fittest for the manufacture of paper. Flax has hitherto been grown in India in large quantities, but almost entirely for the sake of the seed. Various means have from time to time been used to extend the cultivation of this useful plant in India, and it has been produced in the Punjaub of a quality equal to that of the best kinds received from Russia. The plant which stands next to flax for the quality of its fibre is the rheea of Assam and other parts of India. The plant grows to a height of from three to four feet, and being a perennial, the expense of cultivation is less than that of most plants. It will bear cutting down three times in a season; the first crop yielding coarse, and the second and third fine fibres. Probably about ten per cent. of useful fibre may be extracted from the stems of this plant.

The Neilgherry nettle, the mudar, the well known jute of commerce, the safet bariala, the ambaree, the hemp, the jettee, the pine apple, the moorva, the agave Americana, the fourcuya gigantea, the plantain, the yucca gloriosa, the phormium tenex, or New Zealand flax, etc., etc., may also be employed for the same purpose. All of these, except the last two enumerated, are indigenous to India, and contain fibres which may be more or less usefully applied to the manufacture of paper, and of textile fabrics.

The Wonders of the Atmosphere.

The atmosphere rises above us with its cathedral dome arching toward heaven, of which it is the most perfect synonym and symbol. It floats around us like that grand object which the apostle John saw in his vision, "a sea of glass like unto crystal." So massive is it that when it begins to stir it tosses about great ships like playthings, and sweeps cities and forests like snow flakes to destruction before it.

And yet it is so noble that we have lived years in it before we can be persuaded that it exists at all, and the great bulk of mankind never realize the truth that they are bathed in an ocean of air. Its weight is so enormous that iron shivers before it like glass, yet a soap bubble sails through it with impunity, and the tiniest insect waves it aside with its wing. It ministers lavishly to all our senses. We touch it not, but it touches us. Its warm south wind brings back color to the pale face of the invalid; its cool west winds refresh the fevered brow, and makes the blood to mantle our cheek; even its north blasts brace into new vigor the hardened children of our rugged climate.—The eye is indebted to it for all the magnificence of sunrise, the full brightness of midday, the chastened radiance of the morning, and the clouds that cradle near the setting sun. But for it the rainbow would want its "triumphant arch," and the winds would not send the fleecy messengers on errands around the heavens; the cold ether would not shed snow feathers on the earth nor would drops of dew gather on the flowers. The kindly rain would never fall, nor hailstorm nor fog diversify the face of the sky; our naked globe would turn its tanned and unshadowed forehead to the sun, and one dreary, monotonous blaze of light and heat dazzle and burn up all things.

Were there no atmosphere the evening sun would in a moment set, and without warning plunge the earth into darkness. But the air keeps in her hand a shield of her rays, and lets them slip but slowly through her fingers, so that the shadows of evening are gathered by degrees, and the flowers have time to bow

their heads, and each creature space to find a place of rest and to nestle to repose. In the morning the garish sun would at one bound burst from the bosom of night and blaze above the horizon; but the air watches for his coming and sends first but one little ray to announce his approach, and then another, and then a handful, and gently draws aside the curtain of night and slowly lets the light fall upon the face of the sleeping earth, till her eyelids open, and like man she goeth forth again to labor until the evening.—*Quarterly Review.*

Origin of Speech.

Man in his primitive and perfect state was not only endowed, like the brute, with the power of expressing his sensations by interjections, and his perceptions by onomatopœa; he possessed likewise the faculty of giving more articulate expression to the rational conceptions of his mind. That faculty was not of his own making. It was an instinct, an instinct of the mind, as irresistible as any other instinct. So far as language is the production of that instinct, it belongs to the realm of nature. Man loses his instincts as he ceases to want them. His senses become fainter when, as in the case of scent, they become useless. Thus the creative faculty, which gave to each conception, as it thrilled for the first time through the brain, a phonetic expression, became extinct when its object was fulfilled. The number of these phonetic types must have been almost infinite in the beginning, and it was only through this same process of natural elimination which we observed in the early history of words, that clusters of roots, more or less synonymous, were gradually reduced to one definite type.—*Max Mueller.*

Statistics of Human Life.

The total number of human beings on earth is now computed in round numbers at one thousand millions. They speak 3,064 now known tongues, and in which upwards of 1,100 religions or creeds are preached. The average term of life is 33¼ years. One-fourth of the born die before they reach the age of seven years, and the half before the 17th year. Out of 100 persons, only six reach the age of 60 years and upwards, while only one in 1000 reaches the age of 100 years. Out of 500 only one attains 80 years. Out of the thousand million living persons, 33,000,000 die annually, 91,000 daily, 3,730 every hour, 60 every minute, consequently one in every second. The loss is, however, balanced by the gain in new births. Tall men are supposed to live longer than short ones. Women are generally stronger than men until their 50th year; afterwards less so. Marriages are in proportion to single life, (bachelors and spinsters,) as 100 to 75. Both births and deaths are more frequent in the night than in the day. One-fourth of men are capable of bearing arms, but not one out of a thousand is by nature inclined to the profession. The more civilized a country is, the more full of vigor, life, and health are the people. The notion that education enfeebles and degenerates the human frame, is not borne out by fact.—*Once a Week.*

EDUCATIONAL.

Duty of Parents to the Neighborhood School.

Mr. Editor: In your last number you were so kind as to give us subjects for discussion as well as a cordial invitation to write for your excellent Journal. I, therefore, will, as a pleasure, take up my "rusty pen," and proceed to "air my talent."

I choose the most important, and at the same time the most neglected of your four subjects —"The Parent's duty to the Neighborhood School."

Most people think, if they furnish a comfortable school house, employ a good teacher, and visit the school once or twice during each term, that they have performed their duties to the school wondrously well. Surely, that is something, more, I am sorry to say, than is always done, *much more.* But is this all that is necessary to render each term as successful as possible? I think not. In fact, I consider it to be more important for parents to send their *children* to school than for them to go themselves. Not three, nor four days a week, but *each day of every week* during the entire term. Keeping children out of school half a day, or even half an hour for every trifling excuse is productive of much more disorganization in classes and general disturbance in the school room than most parents are aware of, or I can not but think it would be practiced less.

Another very important duty is that of sustaining the character and influence of the teacher. It is natural for children to think their teacher nearly perfect. No one, except father and mother so wise as they. So long as they are of this opinion, obedience to all just laws is easy. They will be diligent in their

studies, and strive in every way to gain the approbation of their teacher; but weaken or destroy this reverential feeling in the child, and you have much diminished, if not entirely destroyed the usefulness of the teacher. Parents should, therefore, carefully cultivate this feeling, not only by commending all that is good in the management of the teacher, but also in avoiding all criticising, faultfinding comments about the school or the abilities of the teacher. Neither is it necessary to lend an eager ear to all the reports children bring home and then tell your next door neighbor all about it. Children are liable to make mistakes and misunderstand. They even have been known to manufacture little stories, when reports were readily received, and easily credited at home.

But if anything pertaining to the school should appear to be going wrong, it is the duty of every parent who has children in attendance to confer with the teacher at once and ascertain the exact truth in the matter, and to demand reformation, if it should be found necessary—not leave it to the Misses Hearsay and Guesswork, who with their busy tongues are always making mountains out of mole hills, and thus often destroying the usefulness of an entire term of school, when a little judicious investigation, or perhaps timely counsel, would have smoothed the difficult places, and all would have gone pleasantly and profitably along.

If people wonld banish all petty jealousies, neighborhood feuds, and party schisms from their schools, and unite in sustaining their teachers in every possible way, this constant cry of worthless teachers and entire terms spent worse than in vain would seldom be heard. MRS. G. H. ADAMS.

DANVILLE, Dodge Co. Nov. 12th.

[Most excellent advice. Let every parent act upon it conscientiously and with faithfulness.

There is no country in the world, except the German States, in which the education of the masses of the people receives as much attention as in America.—ED.]

From the Wisconsin Journal of Education.

Letters to the Governor on our Educational Wants.

1.—MILITARY EDUCATION

SIR:—In the Old World those in authority are sovereigns and the people are subjects.—In the Free States of America, the people are sovereigns and their rulers are their servants. This is not so paradoxical as it might seem.—The employer may conform to the directions of his employee or his servant; may cheerfully submit to the application of rules by his servant, emanating from his own authority. In like manner the people readily obey the laws which they themselves by their representatives have made, and conform to the exercise of authority by those to whom they have for a limitited period entrusted it.

But the people also reserve to themselves the right of expressing their opinions and their wishes, not only by Legislative action, but in less formal ways. Not only may they at all times meet in peaceful public assemblies, but a Free Press is open to the discussion of all subjects of public interest.

I avail myself, Sir, of this privelege, and propose to address to you, as our Chief Magistrate, some thoughts upon several educational topics, confining myself more particularly to what I conceive to be our Educational Wants. I address myself to you, Sir, rather than to the Superintendent of Public Instruction, because his official attention to our educational interests may be supposed to be already pledged; and because any measure that should also gain your official attention and recommendation, would carry with it additional weight.

1. I speak first of Military Education. I do this because I am quite sure that I shall have a ready attention. Although war must be regarded as an abnormal and exceptional condition of civilized society, and although there is something monstrous in the spectacle of a great nation torn and bleeding by civil strife, yet the lessons of all past history as well as the exigencies of the hour, teach us that in peace we must be prepared for war. Whatever beneficial results, under Providence, may finally accrue to our common country and to humanity, from this terific struggle, still we must feel that all those portions of our country at least, which neither desired nor expected such a contest, were unprepared for it. A minority, comparatively weak at first in numbers, could never have conceived, much less attempted, the rebellious project which in some dark hours has seemed almost likely to succeed, had they been conscious that every loyal man was ready, if need be, to gird on his armor for the defence of his country. That we were unprepared, and had almost proved a victim to the sudden irruption upon us of a traitorous domestic foe, was because military education had been neg-

lected. Never did a nation pay more dearly for a great neglect. Never did brainless fanatics counsel more unwisely than those who in years past have clamored against all efforts and all expense for perpetuating a military spirit, and strengthening the military arm of the nation.

Military Education presents two topics:—(1) the training of officers, and (2) the training of the citizen, during the more active period of his life, in the duties of the soldier. The success of military enterprizes depends so much, at the present day, upon the accuracy of scientific attainments, that it may be doubted whether any great multiplication of institutions, in which extended military instruction is sought to be imparted, is desirable at present.* If desirable, it would hardly be practicable. To introduce a measure of such instruction into some of our Colleges and Universities would be well, as tending to keep alive a military pride and spirit, and to increase the number of candidates for admission to purely military schools. But it is quite obvious that such elementary instruction would be insufficient to furnish an adequate military training. From the College, let the aspirant to the profession of arms pass to a military school. And here it may be suggested that the graduates of such a school would exhibit more proficiency and a more thorough culture, if a higher standard of attainments for admission were required. It would not be difficult so to adjust the relations of National Military Schools and such Collegiate Institutions as might encourage military attainments, as that the latter might do much of the preparatory work, and the former be elevated in proportion.

It seems to require no argument to show that a better plan than the present one for the admission of pupils to military schools might be devised. Instead of placing the patronage in the hands of our members of Congress, let a competitive examination of candidates, before a proper Board, determine the question of admission. This would be likely to awaken wider emulation, and to bring out and develop the best military talent of the nation.

It is probable that a second Institution like that at West Point, might advantageously be established. The vast extent of our country and the westward spread of population indicate the propriety of this step. Some reasons might be urged for locating such a School in Kentucky; and the day is not far distant when another may be needed on the Pacific coast.

I do not deem it my province to say much upon the second topic of the present letter.—You have already called the attention of the Legislature to the matter of enrolling the militia and providing for their drill, to meet such demands as the exigencies of the present time may present. It is of course to be hoped that this may assume a permanent as well as efficient form. Although a general military drill of those liable to bear arms had fallen into neglect and even into contempt among us, the recent example of England shows that such a measure may be rendered popular and successful. There is not likely to be a want hereafter of a proper military spirit; it will only need to be properly directed and controlled.

I cannot conclude this subject without expressing dissent from the plan suggested by some of introducing military drill into our common schools—except as the larger boys themselves may choose, under proper regulations, to make it one of their occasional recreations. I quote upon this point, the words of Hon. W. H. Wells, the distinguished Superintendent of Schools in Chicago:

"It is the appropriate business of our public schools to train up patriots, and not soldiers. I would have the pupils study carefully the history of our government, and learn what treasures of blood it cost to establish it. I would have them taught that love of country is one of the first and most important lessons of life. * * * * But I should regard it as a fearful calamity to have either the spirit or the forms of war brought within the walls of the school room—rooms hallowed to lessons of kindness, forgiveness and love. Let the great aim of the public schools be to train communities of children to dwell together in after life, in peace and harmony. If three or five in a hundred must ultimately devote themselves to the arts of war, let them *at the proper age* be trained by themselves; but let not the other ninety-five, and especially those of the gentler sex, be surrounded by the associations of war and bloodshed during all the period of their education at school." CIVIS.

* A late number (September) of Dr. Barnard's *American Journal of Education* gives a very full and interesting account of the Special Military Schools of France and Prussia, the European countries in which Military Science has been most fully elaborated. "The terrible realities of our present situation as a people," says Dr. Barnard, the fact that within a period of twelve months a million of able bodied men have been summoned to arms from the peaceful occupations of the office, the shop and the field, and are now in hostile array, or in actual conflict, within the limits of the United States, and the no less alarming aspect of the future, arising not only from the delicate position of our own relations with foreign governments, but from the armed interference of the great Military Powers of Europe in the internal affairs of a neighboring republic, have brought up the subject of MILITARY SCHOOLS and MILITARY EDUCATION for consideration and action with an urgency which admits of no delay. Something must and will be done at once. And in reply to numerous letters for information and suggestions, and to enable those who are urging the National, State, or Municipal authorities to provide additional facilities for military instruction, or who may propose to establish schools, or engraft on existing schools exercises for this purpose—to profit by the experience of our own and other countries, in the work of training officers and men for the ART OF WAR, we shall bring together into a single volume, "*Papers on Military Education*," which it was our intention to publish in successive numbers of the NEW SERIES of the *American Journal of Education*."—*Preface to Sept. No.*

THE HOME.

To My Children.

In the *Boston Transcript*, not long since, there was a very exquisite poem which was written in camp after battle, and sent by a soldier-father to his children at home. It will stir good thoughts at any fire-side to read it aloud:

Darlings, I am weary pining;
  Shadows fall across my way:
I can hardly see the lining
Of the cloud—the silver lining
  Turning darkness into day.

I am weary of the sighing,
  Moaning, wailing through the air;
Breaking hearts, in anguish crying
For the lost one—for the dying,
  Sobbing anguish of despair.

I am weary of the fighting—
  Brothers red with brothers' gore;
Only that the *wrong* we're righting—
Truth and *Honor's* battle fighting—
  I would draw my sword no more.

I am pining, dearest, pining
  For your kisses on my cheek;
For your dear arms round me twining;
For your soft eyes on me shining:
  For your loved words, darlings—speak!

Tell me, in your earnest prattle,
  Of the olive-branch and dove;
Call me from the cannon's rattle;
Take my thoughts away from battle;
  Fold me in your dearest love.

Darlings, I am weary pining;
  Shadows fall across my way;
I can hardly see the lining
Of the cloud—the silver lining
  Turning darkness into day.

Truth at Home.

Of all happy households, that is the happiest where falsehood is never thought of. All peace is broken up when once it appears that there is a liar in the house. All comfort has gone when suspicion has once entered—when there must be reserve in talk and reservation in belief.—Anxious parents, who are aware of the pains of suspicion, will place general confidence in their children, and receive what they say freely, unless there are strong reasons to distrust the truth of any one. If such an occasion should unhappily arise, they must keep the suspicion from spreading as long as possible, and avoid disgracing their poor child while there is a chance of its cure by their confidential assistance. He should have their pity and assiduous help, as if he were suffering under some disgusting bodily disorder. If he can be cured, he will become duly grateful for the treatment. If the endeavor fails, means must of course be taken to prevent his example from doing harm; and then, as I said, the family peace is broken up, because the family confidence is gone. I fear that, from some cause or another, there are but few large families where every member is altogether truthful. But where all are so organized and so trained as to be wholly reliable in act and word, they are a light to all eyes, and a joy to all hearts. They are public benefits, for they are a point of general reliance; and they are privately blessed within and without. Without, their life is made easy by universal trust; and within their home and their hearts, they have the security of rectitude, and the gladness of innocence.—*Harriet Martineau.*

Do Your Own Work.—Enlarge not thy destiny, says the oracle; endeavor not to do more than is given thee in charge; the one prudence of life is concentration; the one evil is dissipation; and it makes no difference whether our dissipations are coarse or fine. Property and its cares, friends and a social habit, or politics, or music, or feasting—everything is good which takes away one plaything and delusion more, and drives us home to add one stroke of faithful work. Friends, books, pictures, *lower duties*, talents, flatteries, hopes—all are distractions which cause oscillations in our giddy balloon, and make a good poise and a straight course impossible. You must elect your work; you shall take what your brain can, and drop the rest. Only so can that amount of vital force accumulate which can make the step from knowing to doing.—*Emerson.*

From the Persian of Nisami.—No tongue beside is so rich in poetry as the Persian.—Among the thousands of Persian poets Nisami holds rank with the best. The two fragments that follow have never before appeared in English. A strain of truth and genius may be recognized in them; for while self-sufficiency is contemptible, self-sufficingness is grand.

Leave ancestry behind,
  Despise heraldic art;
Thy father be thy mind,
  Thy mother be thy heart!

Dead names concern not thee,
  Bid foreign titles wait;
Thy deeds, thy pedigree,
  Thy hopes thy rich estate!

TRUE NOBILITY.

Who nobly lives and dies, I noble call.
Although the most ignobly born of all.

Dr. Johnson remarked that a habit of looking on the best side of every event is better than a thousand pounds a year. That was true philosophy. When Fenelon's library was on fire, "God be praised," he exclaimed, "that it is not the dwelling of some poor man."

Parents should remember that a little present punishment, when occasion arises, is much more effectual than the threatening of a greater punishment should the fault be renewed.

The Better Age.

BY WILLIAM CULLEN BRYANT.

When after days of dreary rain, a space
Of clear, soft blue, between the parting clouds,
Opens on the drenched field and dripping woods,
The tillers of the soil are glad and say
The storm is overpast; for well they know
That in the clear, blue spot begins the reign
Of sunshine. Broader shall the opening grow
As through the throng of clouds the western wind
Goes forth, a conqueror, and scatters them,
And sweeps them from the glorious cope of Heaven.
Thus, in the tasks of mercy that engage
The minds and hands of thousands, we behold
Signs of a glorious future. They who watch
Beside the sick beds of the poor, who seek
And lead the erring back to the right way,
And heal the wounded spirit with the balm
Of pity, and hold back the cruel hand
That smites the helpless; they whose labors win
The outcast hater of his kind to feel
The power of goodness, and shed penitent tears,
Are God's elected agents to bring in
The better age. With gladness and with thanks
We number mercy's triumphs, and our hopes
Go forward on the glorious train of years,
When all the clouds of strife that darken earth
And hide the face of Heaven, shall roll away;
And like a calm, sweet sunshine, peace and love
Shall light the dreariest walks of human life.

Tearless Eyes.

"God shall wipe away all tears from their eyes." The expression is one of exquisite tenderness and beauty. The poet Burns said he could never read this without being affected to weeping. Of all the *negative* descriptions of heaven, there is no one perhaps that would be better adapted to produce consolation than this. This is a werld of weeping—a vale of tears. Who is there of the human family that has not shed a tear? And what a change it would make in our world, if it could be said that henceforward not another tear would be shed, not a head would ever be bowed again in grief! Yet this is to be the condition of heaven. In that world there is to be no pain, no disappointment, no bereavement. No friend is to lie in dreadful agony on a sick-bed; no grave is to be opened to receive a parent, a wife, a child; no gloomy prospect of death is to draw tears of sorrow from the eyes. To that blessed world, when our eyes run down with tears, we are permitted to look forward; and the prospect of such a world should contribute to wipe away our tears here, for all our sorrows will soon be over. Amidst the trials of the present life, when friends leave us, when sickness comes, when our hopes are blasted, when calumnies and reproaches come upon us, when—standing on the verge of the grave and looking down into the cold tomb—the eyes pour forth floods of tears, it is a blessed privilege to be permitted to look forward to that brighter scene in heaven, where not a pang shall ever be felt, and not a tear shall ever be shed.—*Dr. Barnes.*

AMERICAN HOPEFULNESS.—One of the American characteristics which most surprised the good natured Mr. Trollope in his recent journey through this country, is the imperturable good humor and hopefulness of the people. He meets frequently people who are ruined by the calamities of the war. They never weep, or wring their hands, or tear their hair. One man, from whom the secessionists of Missouri had taken cattle and crops, and all the fruit of the labor of years, merely remarked in a quiet way, while he picked his teeth with a bowie knife, "Yes, they have been kinder rough with me!" That was all; he had nothing else to say. Mr. Trollope thinks a genuine American never complains and never despairs. Whatever happens in the external world, says Mr. T., "the *man* is always there."

HEALTH AND DISEASE.

Treatment of Croup.

Hall's *Journal of Health* says:—Croup is an inflammation of the inner surface of the windpipe. Inflammation implies heat, and that heat must be subdued, or the patient will inevitably die. If prompt efforts are made to cool the parts in case of an attack of croup, relief will be as prompt as it is surprising and delightful. All know that cold water, applied to a hot skin, cools it, but all do not as well know and understand that hot water, applied to an inflamed skin, will as certainly cool it off. Hence the application of ice-cold water with linen cloths, or of almost boiling water with woolen flannel, is very efficient in the cure of croup. Take two or three pieces of woolen flannel of two folds, large enough to cover the whole throat and upper part of the chest; put these in a pan of water as hot as the hand can bear, and keep it thus hot, by adding water from a boiling teakettle at hand; let two or three of the flannels be in the hot water all the time, and one on the throat all the time, with a dry flannel covering the wet one, so as to keep the steam in to some extent; the flannels should not be so wet when put on as to dribble the water, for it is important to keep the clothing as dry as possible, and keep up this process until the doctor comes, or until the phlegm is loose, the child is easier, and begins to fall asleep; then gently wrap a dry flannel over the wet one which is on, so as to cover it up entirely, and the child is saved. When it wakes up, both flannels will be dry.

THE MEASLES.—A correspondent of the Detroit *Advertiser* says that a decoction of oats is infallible for the cure of measles. Take a pint of oats, and put them into a tight vessel; pour on boiling water, and let it stand a short time; then give it to the sick person to drink. It must be pretty warm. In fifteen minutes you will see a change for the better.

THE WAY OF TEMPERANCE THE ROAD TO HEALTH.—Professor Silliman, of New Haven, recently closed a Smithsonian lecture by giving the following sensible advice to young men: "If, therefore, you wish for a clear mind and strong muscles, and quiet nerves, and long life and power prolonged in old age, permit me to say, although I am not giving a temperance lecture, avoid all drinks above water, and mild infusions of that fluid, shun tobacco, opium, and everything else that disturbs the normal state of the system; rely upon nutritious food and mild, diluted drinks, of which water is the base, and you will need nothing beyond these things, except rest, and a due moral regulation of all your powers, to give you long, happy, and useful life and a serene evening at the close."

A WASH FOR THE HAIR.—Six cents worth of borax, put in a quart of warm water; when perfectly dissolved, wash your hair with it, and rinse in warm water.

PUTRID SORE THROAT.—Take half a pint of good old rye whisky, pulverize one or two large spoonsful of common salt, put it in the whisky, shake it well, and then gargle the throat.

WIT AND WISDOM.

A Venerable lady in her hundreth year lost her daughter, who attained the good old age of eighty. The mother's grief was great; and to a friend who came to condole with her, she remarked, "Oh dear! oh dear! I knew I should never be able to raise that child!"

In many ways does the full heart reveal
The presence of the love it would conceal;
But o'en far more the estranged heart lets know
The absence of the love that still it fain would show.
—*Coleridge.*

Practice does not always make perfect. Curran, when told by his physician, that he seemed to cough with more difficulty, replied, "That is odd enough, for I have been practicing all night."

Quills are sometimes taken from the pinions of one goose to spread the opinions of another.

Speculation—a word that sometimes begins with its second letter.

To love something more than one's self, that is the secret of all that is great; to know how to live for others, that is the aim of all noble souls.

Women can easily preserve their youth; for she who captivates the heart and understanding never grows old.

God pardons, like a mother who kisses the offense into everlasting forgiveness.

Kindnesses, like lavender-bags, sweeten every object on which they fall.

DOMESTIC ECONOMY.

Packing Eggs.

MR. EDITOR: Will you allow me to say a few words through your valuable paper to its many readers?

I have read of a great many different modes of packing eggs for winter use. Some recommend packing in ashes, some in a solution of lime, and so on. They may keep good in this way, with some trouble, but then who would like of a cold morning to thrust her hands half way to the elbows in ashes, ley, or even salt, to get an egg for her coffee? Not I.

Now if you will pack them in dry oats and set them in a dry place, you can have eggs as nice and fresh as you could wish for, until warm weather comes; and there will be no loss, as the oats will do for the horse or hens after the eggs are taken out.

MRS. E. B. FOULSTON.

LYONS, Wisconsin.

GLOSSING LINEN.—Inquiry is frequently made respecting the mode of putting a gloss on linen collars and shirt bosoms like that on new linen. This gloss, or enamel as it is sometimes called, is produced mainly by friction with a warm iron, and may be put on linen by almost any person. The linen to be glazen receives as much strong starch as it is possible to charge it with, then it is dried. To each pound of starch a piece of sperm, paraffine, or white wax, about the size of a walnut, is usually added. When ready to be ironed, the linen is laid upon the table and moistened very slightly on the surface with a clean wet cloth. It is then ironed in the usual way with a flat-iron, and is ready for the glossing operation. For this purpose a peculiar heavy flat-iron, rounded at the bottom and polished as bright as a mirror, is used. It is pressed firmly upon the linen and rubbed with much force, and this frictional action puts on the gloss. "Elbow grease" is the principal secret connected with the art of glossing linen.—*Scientific American.*

CHICKEN SALAD.—A tender boiled chicken, the skin taken off and cut up very fine, one-third as much celery as chicken, mix the yolks of 2 hard boiled eggs, tablespoonful of vinegar, salt-spoon of salt, pepper and sweet oil.

A CURE FOR SOFT CORNS.—Scrape a piece of common chalk, and put a pinch to the soft corn, and bind a linen rag upon it. Repeat the application during a few days, and you will find it come off like a shell and perfectly cured. The cure is simple and efficacious.—*Godey.*

To Cook a Delicate Omelette.—Break 8 eggs in a stew-pan, to which add a teaspoonful of very finely chopped onion, one of chopped parsley, half ditto of salt, a pinch of pepper, and three good teaspoonfuls of cream; beat them well together; then put two ounces of butter in an omelette pan, stand it over a sharp fire, and as soon as the butter is hot, pour in the eggs, stir them round quickly with a spoon, until delicately set, then shake the pan round; leave it a moment, to color the omelette; hold the pan in a slanting position, just tap it upon the stove, or range, to bring the omelette to a proper shape, and roll the flap over the spoon; turn it upon your dish, and serve as soon as done. Take care not to do it too much. An omelette cooked in this way is very delicate.

Scalloped Oysters.—Wash out of the liquor 2 quarts of oysters, pound very fine 8 soft crackers, or grate a stale loaf of bread; butter a deep dish, sprinkle in a layer of crums, then a layer of oysters, a little mace, pepper, and bits of butter, another layer of crums, another of oysters, then seasoning as before, and so on, until the dish is filled; cover the dish over with bread-crums, seasoning as before; turn over it a cup of the oyster liquor; set it into the oven for 30 or 40 minutes to brown.

Boiled Chicken.—Equal quantity of celery, 1 tablespoonful sweet oil, 1 of mustard, 2 of vinegar, 1 of salt, pepper, 2 boiled eggs, chop whites, mash yolks, press together.

YOUTH'S CORNER.

Kitty's Choice.

A wealthy old farmer was Absalom Lee,
He had but one daughter, the mischievous Kitty;
So fair and so good and so gentle was she,
That lovers came wooing from forest and city.
The first and the boldest to ask for her hand
Was a trimly dressed dandy who worshiped her "tin;"
She replied with a smile he could well understand,
"That she'd marry no ape for the sake of his skin!"

The next was a merchant from business retired,
Rich, gouty and gruff, a presuming old sinner;
Young Kitty's fair form and sweet face he admired,
And thought to himself "I can easily win her."
So he showed her his palace, and made a bluff bow,
And said she might live there; but wickedly then
Kitty told him she long ago made a rash vow
"Not to marry a bear for the sake of his den!"

A miser came next; he was fearless and bold
In claiming his right to Miss Kitty's affection;
He said she'd not want for a home while his gold
Could pay for a cabin to give her protection.
Half vexed at his boldness, but calm in a trice,
She curt'sied and thanked him, and blushingly then
Demurely repeated her sage aunt's advice
"Not to marry a hog for the sake of his pen!"

The next was a farmer, young, bashful and shy,
He feared the bold wooers who came from the city;
But the blush on his cheek and the light in his eye
Soon kindled a flame in the bosom of Kitty.
"My life will be one of hard labor," he said;
"But, darling, come share it with me if you can."
"I supppose," she replied, gaily tossing her head,
"I must marry the farm for the sake of the man!"

All About my Friends.—No. 4.

Early one morning I was delighted by hearing the welcome song of a wren very near the house. I went out, and the little thing came fluttering close around me, seemingly as much pleased as I. Soon it began to look about, as if in search of a place to build a nest. It would peak into knot-holes, and examine all sorts of corners, frequently coming to me, as if it was trying to make me understand what it wanted. After a while it ventured into the house, where it made a general reconnoisance, and finally settled in a hat, which hung in the room, and in which I have no doubt it would have built its nest, could it have been allowed to do so. I soon had a nice little house made for it, which I placed in a plum tree, in the yard. The wren immediately took possession, then sang for me one of its sweetest songs, and then commenced building its nest.

For about two days I saw nothing more of the wren, and concluded that it had deserted me entirely, when, to my great joy, it made its appearance again, accompanied by a mate, and sang as at first. Soon it flew to its house in the plum tree, followed by its mate; they both entered, and came out again quickly, and one lit on a limb of the tree. The other kept fluttering around, and to and fro, now into the house, then to me, and then to its mate, all the while chippering and singing as if it would go off in ecstasy, till, panting from exhaustion, it was compelled to cease.

In a few minutes they went to work at building their nest, which they completed in a few hours. First they carried sticks and piled the house nearly full, leaving a hollow near the center, which they lined with soft grass, fibres of old bark, &c. When they had finished their nest, they began to show rather unpleasant signs of pugnacity. They teased the bluebirds, drove away a chipping bird which was making a nest in a gooseberry bush near the plum tree; even Bob, the chipmunk, had to make himself scarce whenever they took a notion to fight him. But for all of that they were my greatest favorites.

Every day they would keep "busy as a bee" collecting insects from the fruit bushes, the shrubbery in the dooryard, from the jasmine and the woodbine which climbed over the windows, and every crevice about the buildings and fences, and from top to bottom of the woodpile, everywhere that it was possible for them to go. And every pleasant morning they would greet me with sprightly, cheerful, love-inspiring songs. They always seemed to be pleased to be noticed, and frequently seemed to endeavor to attract attention. They would go in and out of their house when any one was standing within reach of it.

They raised two broods of young ones, four of each brood. The day that the last brood came out, they sung their farewell song.

I hope to see them again next year.

UNCLE WILLIAM.

Farmers' Boys.

The following article, which we find in the Valley Farmer, we commend to the attention of every farmer's boy. Parents should also point it out to their sons, and, if necessary, read it to them carefully, and then hand the article over to them, without comment, unless the remarks be of a mild, pleasing nature:

"In the wide world there is no more important thing than farmers' boys. They are not so important for what they are as for what they will be. At present they are of little consequence too often. But farmers' boys always have been, and we presume always will be, the material out of which the noblest men are made. They have health and strength; they have bone and muscle; they have heart and will; they have nerve and patience; they have ambition and endurance; and these are the materials that make men. Not buckrams and broadcloth, and patent leather, and beaver fur, and kid gloves and watch seals, are the materials of which men are made. It takes better stuff to make a man. It is not fat and flesh, and swagger and self-conceit; nor yet smartness, nor flippancy, nor foppery, nor fastness. These boys make fools, not men; not men such as the world wants, nor such as it will honor and bless.

"Not long hair, nor much beard, nor a cane, nor a pipe, nor a cigar, nor a quid of tobacco, nor an oath, nor a glass of beer or brandy, nor a dog or gun, nor a pack of cards, nor a novel, nor a vulgar book of love and murder, nor a tale of adventures, that makes a man, or has anything to do with making a man. Farmers' boys ought to keep clear of all these idle, foolish things. They should be employed with nobler objects. They have yet to be men of clear grit, honest, intelligent, industrious men, —who shall love their country and and their kind. With the means they possess how easy for them to be in fact first class men. They have land and stock and tools; they have health and time and mind; they have schools and churches and papers; they have books and perseverance, and the heart and hand for work. More than this they need not. Let them awake and work and read and study. It is not all work, nor yet all study, that will make them men of the right stamp. They must work intelligently, and study with an earnest purpose of being benefitted, and then they will become what they ought to be, the real men of the world."

The Flying Squirrel.

The Flying Squirrel is a very pretty little animal. Its color is nearly like that of the common Red Squirrel. When full grown, it is about nine inches long, including the tail, and five across, when extended for flying Though in reality it does not fly, merely sailing off from some elevated position, in a slanting direction, downwards. When at the height of 20 or 30 feet, it will go six or eight rods. Its habits are nocturnal, that is, it goes out only in the night, except when disturbed. It usually makes its nest in some old hollow tree, where it stays through the day, till twilight, when it comes out and sails off to the foot of some tree, in the direction in which it wishes to go, ascends that, and sails off again, and so on to the end of its journey. When the moon shines, or it is bright starlight, it will remain out all night, procuring food. When on a tree after nuts, it makes a noise between that of a mouse and that of the red squirrel. It is easily tamed, and makes a nice pet. One which I once had became so tame in two days that it would sit on my hand and eat, taking the nuts from my fingers. When done eating, it would climb all over me, and when it got tired, it would curl up under my arm, or in my sleeve. One time, when I had it out to feed it, all of a sudden it was missing. I searched the room all over, took off my coat and vest, but no squirrel was to be found. At length I told my

dog to find the squirrel. Dog, squirrel and I were good friends. The dog went directly to the coat and began pawing one of the pockets, and looked up at me, as much as to say: "here is the squirrel." I looked in the pocket, and, sure enough, there was Mr. Squirrel, all cuddled down as nicely as could be. It would eat three or four hickory nuts or hazel nuts, and two or three large spoonsful of milk, in a day. Its nest was soft flannel rags. If taken out in the evening, it would become restless, and seem to wish to make its escape. I kept it several months, and it seemed to thrive nicely, but finally it was killed, apparently, by the firing of a cannon quite near by.

UNCLE WILLIAM.

WAUKESHA.

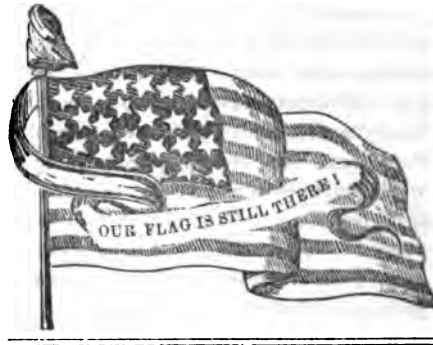
Some Things About the Sea, &c.

Our little readers will remember that in our last number we promised something about the color and currents of the sea. It so happens, however, that the printers have, by mistake, put two of Uncle William's pleasing stories in type instead of one, and so there is not room in the "Corner" this time for "Some Things about the Sea."

GIRLS.—There are two kinds of girls. One is the kind that appears the best abroad—the girls that are good for parties, rides, visits, balls, etc., and whose chief delight is in such things. The other is the kind that appears best at home—the girls that are useful and cheerful in the dining room, the sick room and all the precincts of their home. They differ widely in character. One is often a torment at home, the other a blessing. One is a moth, consuming everything about her; the other is a sunbeam, inspiring life and gladness all along her pathway. Now it does not necessarily follow that there should be two classes of girls. A slight education of the right sort will modify both a little, and unite their good qualities in one.

☞ Learn in childhood, if you can, that happiness is not outside, but inside. A good heart and a clear conscience bring happiness, which no riches and and no circumstance alone can ever do.

WAR MISCELLANY.



[For the Wisconsin Farmer.]

God Bless our Gallant Soldier Boys!

I

Now in these days of blood and strife,
When Liberty herself demands
The sacrifice of ease and life,
The service of strong hearts and hands;
While thousands now in stern array
The weapons of destruction poise,
For them let us in earnest pray—
God bless our gallant soldier boys!

II

They left the workshop, office, field,
Their friends, their hopes, their future schemes,
To country all beside did yield;
They buried all Ambition's dreams,
And went with brave, though saddened hearts
To struggle mid war's hideous noise.
With rich rewards, ere life departs,
God bless our gallant soldier boys!

III

When exposed in the crowded camp
To fierce contagion and disease,
To sun, to wind, to rain and damp,
And everything that checks their ease;
When subject to temptations strong,
Of vice, of sin, of brutal joys,
O then, with power to shun the wrong,
God bless our gallant soldier boys.

IV

When dread disease has laid them low,
When life looks dark and pleasures tire,
When every touch feels like a blow,
And every vein a course of fire,
O then, with strong, victorious faith,
Which e'en the fear of death destroys,
Which in it hope and pleasure hath,
God bless our gallant soldier boys!

V

And when the shock of battle comes,
When "Blood and Vengeance" is the cry,
When shrieks of fifes and noise of drums
To thousands are an elegy—
When courage, anger, malice, rage,
Cut down men's lives like useless toys,
O then with two-fold strength t' engage,
God bless our gallant soldier boys!

VI

Where'er they are, whate'er their fate,
Whatever comes to cause distress,
May joy make glad the desolate,
And happiness their moments bless;
And when the hosts of Vice and Sin
Spread out their wicked, black decoys,
May truth brave souls to virtue win;
God bless our gallant soldier boys!

—JOHN T. DALE.

Unrecorded Heroes.

When the present war shall be over, what a glorious history may be written. But I speak not now of great Generals and Commanders, who, under the inspiration of leadership, and with the magnetic eyes of the world upon them, shall have achieved their several triumphs; but of those who have laid aside the plow, and stepped from behind the anvil and the printing press, and the counter, and from out the shop, and with leaping pulses, and without hope of reward, laid an honest heart and strong right arm on the altar of their country; some to languish in prison, with undressed wounds, defying taunts and insults, hunger and thirst, their places of sepulture even unknown, and their names remembered only at some desolate hearthstone, by a weeping widow and orphans, and whose last pulse-beat was "for their country."

By many a cottage fireside shall old men tell tales to wondering childhood, that shall bring forth their own precious harvest; sometimes of those who, inclosed in meshes too cunningly woven to sunder, wore hated bandages over loyal hearts, and with gnashing teeth and listening ear, and straining eyeballs, bided their time to strike! Men who planted that the tyrant might reap; whose wives and children went hungry and shelterless, that he might be housed and fed. Nor shall woman be forgotten, who, with quivering heart and smiling lip, bade God-speed to him than whom only her country was dearer, and turned bravely back to her lonely home, to fight the battle of life with no other weapon than faith in Him who feedeth the ravens. All these are the true heroes of this war; not alone they who have memorials presented, and if they die, pompous monuments erected, but the thousands of brave fellows who know, if they fall. they will have mention only among "the list of killed and wounded." Who, untrammeled by precedents, shall write us such a history?

The Great Napoleon.

We find the following graphic picture of Napoleon the First in "Marius," the third part of Victor Hugo's great work, "Les Miserables." Would God we, too, had a Napoleon, for a time, just now.

"He was everything. He was complete.—He had in his brain the cube of human faculties. He made codes like Justinian, he dictated like Cæsar, his conversation joined the lightning of Pascal to the thunderbolt of Tacitus, he made history and he wrote it, his bulletins are Iliads, he combined the figures of Newton with the metaphors of Mohammed; he left behind him, in the Orient, words as grand as the Pyramids; at Tilsit he taught majesty to emperors; at the Academy of Sciences he replied to La Place; in the Council of State he held his ground with Merlin; he gave his soul to the geometry of those and the trickery of these; he was legal with the attorneys and sidereal with the astronomers; like Cromwell blowing out one candle when two were lighted, he went to the temple to cheapen a curtain tassel; he saw everything; he knew everything; which did not prevent him from laughing a good man's laugh by the cradle of his little child; and all at once startled Europe listened, armies set themselves in march, parks of artillery rolled along, bridges of boats stretched over the rivers, clouds of cavalry galloped in the hurricane, cries, trumpets, a tremble of thrones everywhere, the frontiers of kingdoms oscillated upon the map, the sound of a superhuman blade was heard leaping from its sheath, men saw him standing erect in the horizon with a flame in his eyes, unfolding in the thunder of his two wings, the Grand Army and the Old Guard, and he was the archangel of War!"

NEWS SUMMARY.

STATE MATTERS.

State Ag'l Rooms, MADISON, Nov., 1862. —NOTICE is hereby given that the Annual Meeting of the Wisconsin State Ag. Society, for the year 1862, will be held in these Rooms on Wednesday the 10th day of December next, at 3 o'clock, P. M.

The Report of the Executive Committee and certain amenkments to the Constitution of the Society, will be laid before the meeting.

J. W. HOYT, *Secretary*.

Military Affairs in Wisconsin have presented nothing of greater interest during the past month than the violent resistance of the draft in Ozaukee and the threatened resistence in Milwaukee and Green Bay.

The damage done to property and persons by the mob in Ozaukee was very serious, but the prompt and energetic action of the Governor and of the Provost Marshal quickly settled the disturbance by making prisoners of the cowardly traitors, who have disgraced themselves and tarnished the glory of the State by their wicked and futile defiance of the authority of the Government.

Troops were sent to Milwaukee to prevent a similar outbreak at that place, and with the

most satisfactory results—the draft having gone off quietly.

Gen. Pope and staff have arranged to make the headquarters of the Department of the Northwest at Madison for the coming winter.

Market Prices of produce are steadily improving, though not immensely remunerative to the farmer as yet. It seems quite impossible that they should retrograde, however, and none except such as are obliged to sell should worry themselves with trying to find market.

NATIONAL AFFAIRS.

Touching the progress of the war we have nothing to record, save that Gen. McClellan has been superceded by Gen. Burnside—that the Grand Army has been *said* to be in motion for some time—that Gen. Mitchell, one of the noblest and most efficient of all the officers in the army service, has died—and that winter, with its storms and impassable roads, is likely to fall upon the army ere it wakes up from its apalling lethargy.

FOREIGN AFFAIRS.

France, it is said, threatens us with war unless our Government shall unqualifiedly repudiate the acts of Gen. Butler touching his treatment of the property and persons of French citizens in New Orleans; and it is understood that the Secretary of State will accede to their demands.

Spain is also disposed to still further complicate our national difficulties by making unreasonable exactions relative to the destruction of one of her ships off the coast of Cuba.

England takes no further steps toward meddling with our affairs. It is understood that at Liverpool and Glasgow iron steamers are fitting out with a view to falling into the hands of the Rebels, and so preying upon our commerce.

Russia maintains her noble stand as the true friend of America.

EDITORIAL MISCELLANY.

The "Farmer" will not be discontinued to subscribers without an order, unless at the option of the Publishers.

Bound Volumes for 1862.—We shall have copies of the FARMER for 1862 bound in neat substantial cloth covers, with gilt letter backs, at $1,12½.

Several Communications intended for the Agricultural Department of this number came too late and have consequently been deferred until January. Articles appropriate for either the Agricultural, Stock, Bee, or the Horticultural Departments should be in the Editor's hands by the first day of the month previous to the month for which they are intended.

Binding the "Farmer."—Every person who takes the FARMER, and who values it for reference and subsequent use will find that it *pays* to have it bound. The expense is but 40 cents, if done by Mr. Suckow, whose advertisement will be found in this number, and whose work is of the best quality. Subscribers who cannot otherwise get their several numbers to the bindery in question, may find it convenient to send by members of the Legislature.

Notes of Travel in Europe are necessarily postponed until January, when they will be resumed and continued without further interruption. A letter on the Alps designed for this number has been crowded out by the Index, the necessity for the publication of which did not occur to us until there was already matter enough in type to quite fill all the available space.

Magnificent Sweet Potatoes.—Worthy Example for the Boys!—A few days ago our porter was observed upon the office stairs, lustily tugging away at a ponderous package, which bore this inscription —"To the Editor of WISCONSIN FARMER, Madison, Wis." Was it mineralogical specimens from the old world, a new-fangled machine forwarded for exhibition by some lucky patentee, or was it a parcel of big nuggets of gold from some fortunate Pike's-Peaker, whose partiality for the FARMER had prompted him to give it a generous *lift* in the time of need? No, it was *five monstrous sweet potatoes!*—worthy products of the skill and enterprise of Master Henry Williams, of Palmyra! We meant to have sent them to the hay-scales and have them weighed, just for curiosity's sake, but somehow they found their way, peace-meal, into the oven before we had time to attend to it; so that the best idea we can give of their ponderosity is, that nine able-bodied men and women fed upon them for supper, and that a portion of one, quite large enough for a small meal, remained, after all had done their best!

This Master Henry, who planted and cultivated these excellent giant potatoes, is a boy of about 13 years of age. During the past year he has had the immediate care of his father's garden, done the *chores* about the house, at-

tended the Academy, where he stands at the head of his class, and, in addition to all this, takes lessons in music and does more sensible playing, at odd spells, than most boys who do nothing else but play. Moreover he has, for two years, taken the FARMER in his own name, paying for it, in advance, with his own money, and turning it to good practical account, as you see.

As a reward for his industry and ambition, and for the splendid prize potatoes, we have sent him "The Garden;" a Manual of Practical Horticulture, published by Fowler & Wells. And we, further, commend his example to the multitude of boys under whose notice this record may fall. All may not be able to raise such potatoes, but they may, if they will, do something else just as worthy.

The Osier Willow.—If any one wants slips of the Osier Willow for planting next spring, let him apply to J. P. Beard, Esq., of Springdale, Dane county, who generously offers the cuttings 'free, gratis, for nothing,' and a good dinner 'to boot!' Cheap enough at half the price.

See Time Table of Milwaukee & Prairie du Chien Railway. This road, as now managed, is one of the best in this country. The officers are men of ability, promptness and energy, the conductors very gentlemanly and obliging. Just recently several new cars have been put upon the road, which, for style of construction and elegance of furnishing, are superior to anything we have seen either in this country or in Europe. They were manufactured at Milwaukee, and are alike creditable to the city and to the managers of the road.

"Opinions of the Press."—THE WISCONSIN FARMER has never been much inclined to "blow its own trumpet," though the Press of the State and country has frequently given it excellent occasion for so doing. Readers who have little or no acquaintance with the FARMER, and yet who may desire the opinion of unprejudiced parties concerning its merits, are respectfully referred for this the first time since we have managed the paper to the opinions of several such parties, as published on the page immediately following the Index. We have any quantity of similar endorsements, but have no room for more, and, besides, these seem to us sufficient.

NOTICES OF NEW ADVERTISEMENTS.

See advertisement of Aiken's Knitting Machine; also article on Knitting Machines in Mechanical Department.

Prince & Co.'s Melodeons are likewise illustrated in department of "Art, Science, Statistics." See advertisement.

D. Appleton & Co. advertise the "New American Cyclopædia." Too much can scarcely be said in favor of this Great Work. It is, of itself a complete library, giving the latest and most reliable information on all subjects. No head of a family can afford to do without it, and no ambitious youth could make a better investment of money than in its purchase.

By reference to the first page of cover, it will be seen that we have included this splendid work among our prizes. An excellent opportunity is thus afforded for any person anxious to have the Cyclopædia to get it without a cent of money, while, at the same time he is helping forward the good cause of agricultural improvement. Read the advertisement and report with a list of subscribers sufficiently large to secure the prize.

The Bloomington Nursery is advertised by Mr. Phœnix. One could hardly have more cordial endorsements than those published by Mr. Phœnix, as furnished by some of the best citizens of Wisconsin, and we shall expect him to secure a large patronage from this portion of the country.

Messrs. O. S. Willey & Co.'s advertisement in this number will be read by all who are contemplating making purchases of stock for next year's planting. Mr. Willey has a good many years of experience in the business, and declares his determination not to be outdone by any of his horticultural brethren in either the quality or prices of whatever he has to sell.

See Wheeler & Wilson's Sewing Machine advertisement. These are probably the most popular machines, all things considered, in the world, and we have accordingly adopted them as prizes. See Prospectus.

OUR BOOK TABLE.

Thanks for copies of "Results of Meteorological Observations for the period of 1854-'59," and for Major Delafield's great Report on the Art of War in Europe.

The Work on Meteorology was prepared under the direction of Prof. Henry, the able and indefatigable Secretary of the Smithsonian Institution, and at the joint expense of the Patent Office and the Institute. It is an immense volume of 1219 pages quarto, and embraces the condensed tabulated reports of the meteorological conditions at a large number of stations in British America and in all the States.

It is works like this, that to the careless, unscientific mass of the people mean nothing and are of no worth, which are the germ of great discoveries, destined, in the future, to give to man new power over the elements and forces of nature.

The Report on the Art of War, &c., is entirely apropos as well as intrinsically valuable. Wish it could furnish us the great military desideratum of the times—a key to the method and the *Man* essential to the crushing of the Rebellion. Science is always of value—except now and then, when it secures to mediocre, inefficient men the place of power which Genius is alone competent to fill. It is well to fight scientifically, we suppose, but it's a great deal better *to whip the enemy!* Since the profoundly scientific and most masterly inactivity of the Grand Army of the Potomac our prayer has been for the resurrection of General Jackson—a man who, had he been General in Chief, would long ago have sworn "By the Eternal!" stamped upon the enemy and squelched him forever. May God give us a MAN!

Address Dr. C. H. Cleaveland, Cincinnati, Ohio.

Milwaukee & Prairie du Chien Railway.

On and after Nov. 17th, 1862, and until further notice, trains will run as follows from Madison Depot:

Going East.

Mail and Express Passenger,.....11:00 A. M.

Going West.

Mail and Express Passenger,.....6:20 P. M.

Arrive from East.

Mail and Express Passenger,.....6:00 P. M.

Arrive from West.

Mail and Express Passenger,.....10:40 A. M.

Madison Accommodation.

Arrives,.....11:25 P. M.
Leaves,.....5:00 A. M.

STATEMENT

OF THE

Madison Mutual Insurance Company,

FOR THE YEAR ENDING

JANUARY 1st, 1862.

Made to the Governor of the State of Wisconsin, as required by the provisions of chapter 303, of the General Laws of 1858.

Total amount of accumulations,.....		$216,865 76

ASSETS:

Premium notes of policy holders	$180,124 63	
Cash on hand, and due from policy holders for cash premiums,.....	35,408 66	
Am't secured by mortgage and judgment,.....	332 47	
Office furniture and fixtures,...	1,000 00	$216,865 76
Whole number of policies issued, ...		14,357
Am't of outstanding risks thereon,.....		$10,320,789 00
Reported losses awaiting further proof,.....		3,709 80
Losses recently reported,.		3,433 89
Whole number of policies issued in 1861...		5,778
Amount of outstanding risks thereon,.....		$5,315,173 00
Amount of premium notes thereon,.		93,944 06
Amount of cash premiums thereon,.		48,377 36
Total amount of losses reported during the year,.....		15,801 13
Total am't of losses paid during the year,		6,881 16
Amount settled by drafts and awaiting the call of the insured, ...		1,568 85
Amount of commissions paid to Agents,....		7,460 84
Am't paid for Advertising, ...	$1,625 20	
Amount paid for printing,.....	811 00	
Amount paid for postage,..	366 22	
Amount paid for office rent,....	200 00	3,002 42
Expenses paid, including all compensation of officers and directors—stationery, extra clerk hire, fuel, lights, and all other incidental expenses,.....		6,069 56

STATE OF WISCONSIN, } ss.
DANE COUNTY,

We, the undersigned, being the President and a majority of the Directors of the "Madison Mutual Insurance Company," do solemnly swear, and each for himself saith, that the foregoing is a true and correct statement of the affairs of said company in the particulars therein named, as appears by the books of the company, according to the best of our knowledge and belief.

D. J. POWERS, President.
JOHN W. BOYD,
SAMUEL D. HASTINGS,
B. F. HOPKINS,
TIMOTHY BROWN,
ALBERT WOOD,
G. F. HASTINGS,
H. H. GILES,
SAM'L R. McCLELLAN,
G. R. MONTAGUE,
ORRIN GUERNSEY,
LUTHER BASFORD,
DAVID ATWOOD,
D. WORTHINGTON.

Subscribed and sworn before me this sixth day of January, A. D. 1862. V. W. ROTH, Notary Public, Dane County.

Comparative Statement of the business of the Company for the years 1859, 1860 *and* 1861:

	1859.	1860.	1861.
Total amount of accumulations,...			
ASSETS:			
Premium notes of policy holders,...	$35,403 46	$92,457 27	$180,124 63
Cash on hand, and due from policy holders for cash premiums,.....	2,966 02	16,509 74	35,408 66
Amount secured by mortgage and judgment, ...	332 47	332 47	332 47
Office furniture and fixtures,..	300 00	1,000 00	1,000 00
Whole number of policies issued,...	30,060 95	110,369 40	216,865 76
Am't of outstanding risks thereon,	4,807	8,579	14,357
Total am't of losses paid and settled,	$2,409,950 49	$5,461,115 49	10,320,789 00
Losses reported and awaiting further proof,.....	2,409 45	5,903 31	8,450 01
Whole number of policies issued in 1861...		499 53	7,351 12
Am't of outstanding risks thereon,	1,187	3,772	5,778
Am't of premium notes thereon,..	$1,140,076 00	$3,916,115 49	$5,315,173 00
Am't of cash premiums thereon,...	17,109 82	68,789 45	93,944 06
Am't of commissions paid to Agents,	11,059 04	35,761 88	48,377 36
Am't of expenses paid, including all compensation of officers, printing, advertising, postage, and all other incidental expenses,.....	3,317 70	10,339 18	7,460 84
	3,317 51	5,847 44	9,071 89

The foregoing statement of the business of this Company for the past year gives a gratifying evidence of its high standing in the public estimation and of the success of its rules and principles of action.

Although its business for the preceding year (1860) was much larger than that of any previous year, and notwithstanding the general depression among farmers the past season, arising from light crops and low prices, the above figures show an increase of nearly *seventy per cent.* in the number of policies issued, and of *over seventy per cent.* in the amount of cash premiums for the past year.

We invite a careful examination of this report. Its figures make a stronger argument than any form of words, and prove a rise and standing in popular favor unparalleled in the history of the Northwest.

DIRECTORS AND OFFICERS FOR THE YEAR 1862:

DIRECTORS.

J. W. BOYD, Walworth County.
B. F. HOPKINS, Dane County.
D. WORTHINGTON, Waukesha County.
S. D. HASTINGS, Trempeleau County.
G. F. HASTINGS, Dane County.
DAVID ATWOOD, Dane County.
G. R. MONTAGUE, La Crosse County.
S. R. McCLELLAN, Kenosha County.

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